# STATE OF VERMONT
# AGENCY OF TRANSPORTATION

INDEX OF SHEETS


1. MASTER TITLE SHEET
2. INDEX OF SHEETS


BEGINNING AT A POINT APPROXIMATELY 1142.90 METERS WEST OF THE ENOSBURG-BERKSHIRE TOWN LINE AND EXTENDING EASTERLY 397.47 METERS

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF BRIDGE # 26 OVER THE TROUT RIVER AND NECESSARY ROADWAY APPROACHES INCLUDING A NEW INTERSECTION FOR ACCESS TO T.H. #42

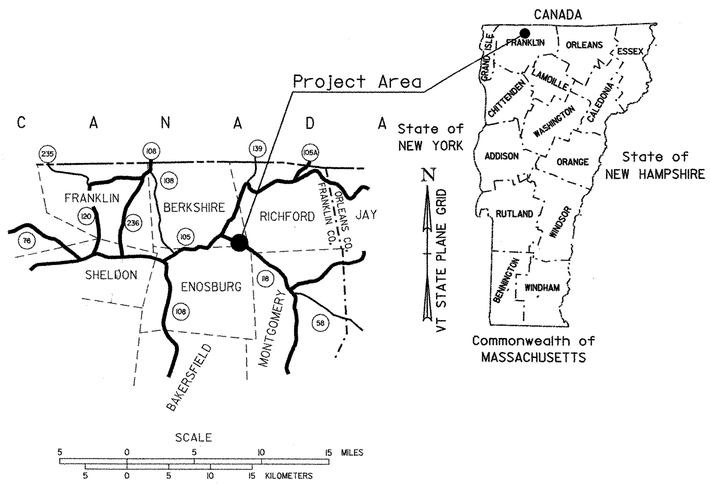
LENGTH OF STRUCTURE 45.40 METERS
LENGTH OF ROADWAY 352.07 METERS
LENGTH OF PROJECT 397.47 METERS

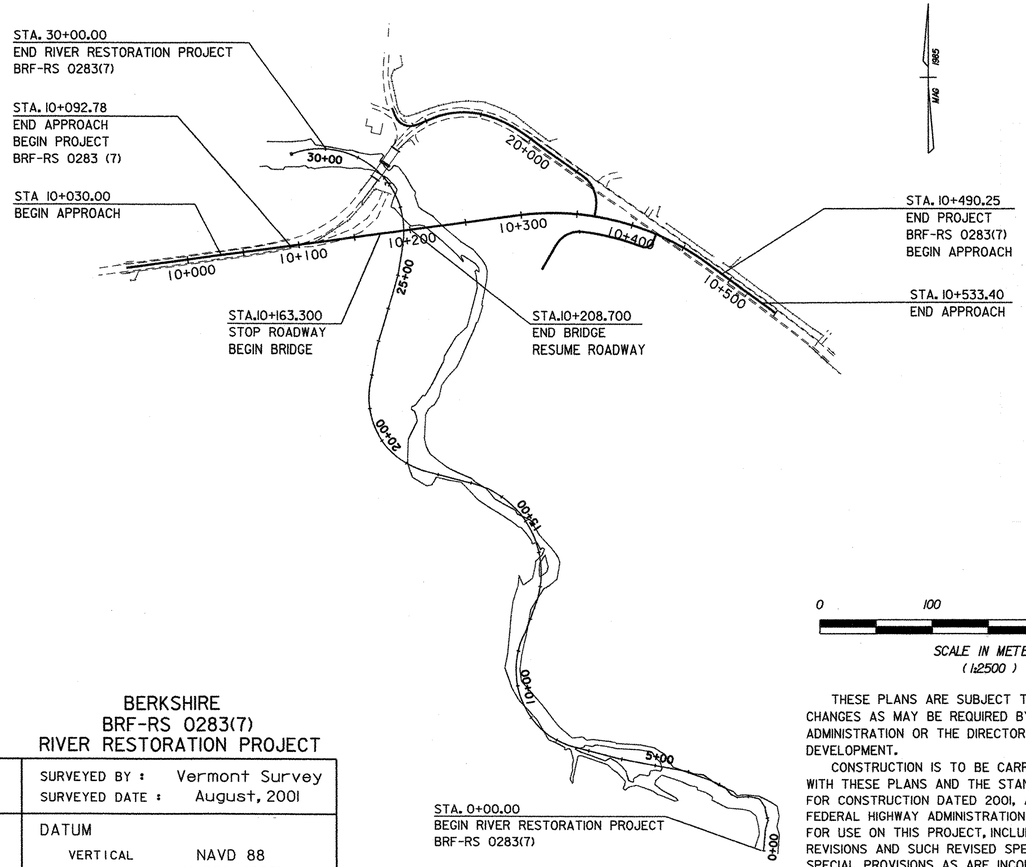
BEGINNING AT A POINT APPROXIMATELY 350 FEET DOWNSTREAM OF EXISTING BRIDGE #26 AND EXTENDING UPSTREAM 3190 FEET.

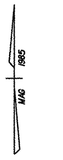
WORK TO BE PERFORMED UNDER THE RIVER RESTORATION PORTION OF THIS PROJECT INCLUDES STABILIZATION OF THE TROUT RIVER AND ESTABLISHMENT OF A RIPARIAN BUFFER ZONE.

LENGTH OF RIVER RESTORATION PROJECT 3190 FEET

# PROPOSED IMPROVEMENT
# TOWN OF BERKSHIRE
# COUNTY OF FRANKLIN
# VERMONT ROUTE 118 (F.A.S.)




| TRAFFIC DATA | |
|---|---|
| 1997 ADT = 1760 | 2017 ADT = 2390 |
| DHV = 245 | DHV = 335 |
| ADTT = 130 | ADTT = 150 |
| % T = 5 | % T = 5 |
| % D = 56 | |
| V = 80 km/h | |
| 1997-2017(20YR) 18 K ESAL = 1,759,000 | |
| FUNCTIONAL CLASSIFICATION : MAJOR COLLECTOR | |

## RECORD PLANS

CONTRACTOR: A.L.ST.ONGE CONTRACTOR,INC. – MONTGOMERY, VT

RESIDENT ENGINEER: RAY HAYES

CONSTRUCTION BEGAN: MAY 3, 2004

CONSTRUCTION COMPLETE: NOVEMBER 2, 2005

RECORD PLANS BY: RAY HAYES & N. GARBACIK

I HEREBY CERTIFY THAT ALL THE CONSTUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY Raymond W. Hayes RESIDENT ENGINEER

DATE 03-08-07

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

## CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

| BERKSHIRE BRF-RS 0283(7) BRIDGE PROJECT | | BERKSHIRE BRF-RS 0283(7) RIVER RESTORATION PROJECT | |
|---|---|---|---|
| SURVEYED BY : | R. Hayes | SURVEYED BY : | Vermont Survey |
| SURVEYED DATE : | 1985 | SURVEYED DATE : | August, 2001 |
| DATUM | | DATUM | |
| VERTICAL | NGVD 1929 | VERTICAL | NAVD 88 |
| HORIZONTAL | N/A | HORIZONTAL | NAD83 (1992) |

0 100 200 300
SCALE IN METERS
( 1:2500 )

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

VAOT Metric

UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED [signature] DATE 9/18/03

PROJECT MANAGER :

PROJECT NAME : BERKSHIRE
PROJECT NUMBER : BRF-RS 0283(7)

SHEET 1 OF 140 SHEETS

STATE OF VERMONT
AGENCY OF TRANSPORTATION

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11. MISCELLANEOUS DETAILS
12. DRAINAGE DETAIL SHEET
13. ITEM DETAIL SHEET
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STANDARDS

| | | |
|---|---|---|
| B-5M | SLOPE GRADING, EMBANKMENTS, MUCK | 01/03/2000 |
| B-11M | UNDERDRAIN - ROCK SUBGRADE, SLOPE STABILIZ. | 06/13/1997 |
| B-71M | RESIDENTIAL AND COMMERCIAL DRIVES | 03/01/2001 |
| C-1M | TREATED TIMBER CURB | 01/03/2000 |
| D-1M | PRECAST RCP DROP INLET | 06/13/1997 |
| D-2M | C.R.M. HEADWALLS & RETAINING WALLS | 06/13/1997 |
| D-4M | END SECTION, ELBOWS | 06/13/1997 |
| D-16M | PRECAST CURB DI, GRATE, RCP END SECTION, ETC.<br>CAST IRON GRATE,TYPE B<br>CAST IRON GRATE,TYPE C<br>REINFORCED CONCRETE PIPE END SECTION | 06/13/1997 |
| E-100M | CONSTRUCTION APPROACH SIGNS | 06/13/1997 |
| E-101M | CONSTRUCTION SIGN DETAILS | 06/13/1997 |
| E-102M | CONSTRUCTION SIGN DETAILS | 06/13/1997 |
| E-102AM | CONSTRUCTION SIGN DETAILS | 06/13/1997 |
| E-106M | TRAFFIC CONTROL - MISCELLANEOUS DETAILS | 06/13/1997 |
| E-107M | DELINEATION, BARRICADES AND DETOURS FOR U-TURNS ON DIVIDED HIGHWAY | 06/13/1997 |
| E-107AM | BREAKAWAY BARRICADE DETAILS | 06/13/1997 |
| E-108M | CONSTRUCTION ZONE LONGITUDINAL DROP OFFS | 06/13/1997 |
| E-109M | TRAFFIC CONTROL DEVICES FOR TEMPORARY TERMINATION OF FREEWAY FACILITIES | 06/13/1997 |
| E-110M | MAJOR MAINTENANCE OPERATION LANE CLOSURE | 06/13/1997 |
| E-121M | STANDARD SIGN PLACEMENT - CONVENTIONAL ROAD | 06/13/1997 |
| E-134M | BRIDGE NUMBER PLAQUE | 06/13/1997 |
| E-138M | MILEMARKER DETAILS - STATE & TOWN HIGHWAYS | 06/13/1997 |
| E-141M | REGULATORY SIGN DETAILS | 06/13/1997 |
| E-142M | REGULATORY SIGN DETAILS | 06/13/1997 |
| E-143M | REGULATORY SIGN DETAILS | 06/13/1997 |
| E-150M | WARNING SIGN DETAILS | 06/13/1997 |
| E-151M | WARNING SIGN DETAILS | 06/13/1997 |
| E-152M | WARNING SIGN DETAILS | 06/13/1997 |
| E-155M | WARNING SIGN DETAILS | 06/13/1997 |
| E-160M | FLANGED CHANNEL STEEL SIGN POST | 06/13/1997 |
| E-164M | SQUARE STEEL SIGN POST | 06/13/1997 |
| E-191M | PAVEMENT MARKING DETAILS | 02/01/1999 |
| E-193M | PAVEMENT MARKING DETAILS | 06/13/1997 |
| G-1M | STEEL BEAM GUARDRAIL (50MPH & OVER) | 01/03/2000 |
| G-1DM | ANCHOR FOR STEEL BEAM RAIL | 01/03/2000 |
| G-4M | PLANK GUARD RAIL<br>STEEL MARKER POSTS | 06/13/1997 |
| G-5M | CEDAR LOG GUARD RAIL | 06/13/1997 |
| G-19M | GENERIC PLANS FOR GUARDRAIL END TERMINALS | 11/15/2002 |
| J-1M | PROJECT AND BOUNDARY MARKERS | 06/13/1997 |
| L-1M | SETTLEMENT PLATFORM | 06/13/1997 |
| L-2M | GEOTECHNICAL INSTRUMENTATION | 06/13/1997 |


| | |
|---|---|
| PROJECT NAME: | **BERKSHIRE** |
| PROJECT NUMBER: | **BRF-RS 0283(7)** |
| FILE NAME: **sf184ind.xls** | PLOT DATE: **10/06/2003** |
| PROJECT LEADER: **C. Keller** | DRAWN BY: **G. Shangraw** |
| DESIGNED BY: **McFarland-Johnson** | CHECKED BY: |
| **INDEX OF SHEETS #1** | SHEET **2** OF **140** |

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# QUANTITY SHEET

Metric

## SUMMARY OF ESTIMATED QUANTITIES

| River Restoration | FULL E & C | EMPLOYEE TRAINING | LANDSCAPING | TEMPORARY EROSION CONTROL | BRIDGE | ROADWAY | QUANTITIES GRAND TOTAL | UNIT | ITEMS | ITEM NUMBER | RND |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1 | 1 | L.S. | CLEARING AND GRUBBING (INCL. INDIV. TREES & STUMPS) | 201.10 | — |
| 1 | | | | | | | 1 | L.S. | CLEARING AND GRUBBING (MOD.)(RIVER RESTORATION WORK) | 201.10 | |
| | | | | | | 9900 | 9900 | $m^3$ | COMMON EXCAVATION | 203.15 | 9.8 |
| 1 | | | | | | | 1 | $m^3$ | SOLID ROCK EXCAVATION (N.A.B.I.) | 203.16 | — |
| | | | | | | 2750 | 2750 | $m^3$ | UNCLASSIFIED CHANNEL EXCAVATION | 203.27 | 8.3 |
| | | | | | | 920 | 920 | $m^3$ | EXCAVATION OF SURFACES AND PAVEMENTS | 203.28 | 7.0 |
| | | | | | | 17000 | 17000 | $m^3$ | EARTH BORROW | 203.30 | 18.0 |
| | | | | | | 3000 | 3000 | $m^3$ | SAND BORROW | 203.31 | 22.2 |
| | | | | | | 3680 | 3680 | $m^3$ | GRANULAR BORROW | 203.32 | 8.9 |
| | | | | | | 8400 | 8400 | $m^2$ | FINE GRADING - SUBGRADE | 203.40 | 32.5 |
| | | | | | | 240 | 240 | $m^3$ | TRENCH EXCAVATION OF EARTH | 204.20 | 9.60 |
| | | | | | | 2 | 2 | $m^3$ | TRENCH EXCAVATION OF ROCK | 204.21 | — |
| | | | | | 860 | 18 | 878 | $m^3$ | GRANULAR BACKFILL FOR STRUCTURES | 204.30 | 3.3 |
| | | | | | 1135 | | 1135 | $m^3$ | COFFERDAM EXCAVATION, EARTH | 208.30 | — |
| | | | | | 100 | | 100 | $m^3$ | COFFERDAM EXCAVATION, ROCK | 208.35 | — |
| | | | | | 1 | | 1 | LS | COFFERDAM (STA. 10+164±) | 208.40 | |
| | | | | | 1 | | 1 | LS | COFFERDAM (STA. 10+208±) | 208.40 | — |
| | | | | | | 350 | 350 | $m^2$ | COLD PLANING - BITUMINOUS PAVEMENT | 210.10 | 9.2 |
| | | | | | | 4100 | 4100 | $m^3$ | SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) | 301.25 | 39.0 |
| | | | | | | 90 | 90 | $m^3$ | AGGREGATE SURFACE COURSE | 401.10 | 0.64 |
| | | | | | 45 | 465 | 510 | kg | EMULSIFIED ASPHALT | 404.65 | 1.5 |
| | | | | | | 1600 | 1600 | † | SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 58-34) | 490.30 | 30.3 |
| | | | | | | | | | | | — |
| | | | | | | | | | | | 7.45 |
| | | | | | 390 | | 390 | $m^3$ | CONCRETE, CLASS C | 501.30 | 7.0 |
| | | | | | 130 | | 130 | $m^3$ | CONCRETE, HIGH PERFORMANCE CLASS A | 501.33 | |
| | | | | | 437 | 3 | 440 | $m^3$ | CONCRETE, HIGH PERFORMANCE CLASS B | 501.34 | |
| | | | | | 1 | | 1 | L.S. | FURNISHING EQUIPMENT FOR DRIVING PILES | 504.10 | — |
| | | | | | 690 | | 690 | m | STEEL PILING (HP 360 X 108) | 505.17 | — |
| | | | | | | 2650 | 2650 | $m^2$ | PERMANENT SHEET PILING (GRADE 50) | 505.35 | 22 |
| | | | | | 87,400 | | 87,400 | Kg | STRUCTURAL STEEL (PLATE GIRDER) | 506.55 | — |
| | | | | | 26,800 | 100 | 26,900 | Kg | REINFORCING STEEL | 507.15 | 67 |
| | | | | | 18,800 | | 18,800 | Kg | EPOXY COATED REINFORCING STEEL | 507.17 | 72 |
| | | | | | 1 | | 1 | L.S. | SHEAR CONNECTORS (1128) 22mm DIA. X 175 mm LONG | 508.15 | — |
| | | | | | 1 | | 1 | L.S. | STRUCTURE PAINTING, SHOP APPLIED | 513.25 | — |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|
| | | COMMON EXCAVATION |
| 257.7 | $m^3$ | T.H. #42 |
| | | |
| 926.1 | $m^3$ | VT. ROUTE 118 |
| | | |
| — | | DRIVEWAYS |
| | | |
| 842.3 | $m^3$ | ABANDONED ROUTE 118 |
| | | |
| 39.9 | $m^3$ | DRAINAGE |
| | | |
| 2820.0 | $m^3$ | WETLAND (UNAVAILABLE FOR FILL) |
| | | |
| 1898.0 | $m^3$ | WETLAND (AVAILABLE FOR FILL) |
| | | |
| 926.2 | $m^3$ | SURCHARGE |
| | | |
| 2180.0 | $m^3$ | UNDERCUT |
| | | |
| 9.8 | | ROUNDING |
| 9900 | $m^3$ | TOTAL |
| | | |
| | | |
| | | UNCLASSIFIED CHANNEL EXCAVATION |
| 1168.7 | $m^3$ | VT. ROUTE 118 (UNAVAILABLE FOR FILL) |
| | | |
| 1573.0 | $m^3$ | VT. ROUTE 118 (AVAILABLE FOR FILL) |
| | | |
| 8.3 | | ROUNDING |
| 2750 | $m^3$ | TOTAL |
| | | |
| | | SAND BORROW |
| 429.4 | $m^3$ | T.H. #42 |
| | | |
| 2548.4 | $m^3$ | VT. ROUTE 118 |
| | | |
| 22.2 | | ROUNDING |
| 3000 | $m^3$ | TOTAL |
| | | |
| | | FINE GRADING - SUBGRADE |
| 1410.0 | $m^2$ | T.H. #42 |
| | | |
| 6147.6 | $m^2$ | VT. ROUTE 118 |
| | | |
| 809.9 | $m^2$ | DRIVEWAYS |
| | | |
| 32.5 | | ROUNDING |
| 8400 | $m^2$ | TOTAL |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|
| | | TRENCH EXCAVATION OF EARTH |
| 230.40 | $m^3$ | DRAINAGE |
| | | |
| — | | UNDERDRAINS |
| | | |
| — | | TEMPORARY EROSION CONTROL |
| | | |
| 9.60 | | ROUNDING |
| 240 | $m^3$ | TOTAL |
| | | |
| | | SUBBASE OF CRUSHED GRAVEL (COARSE GRADED) |
| 445.51 | $m^3$ | T.H. #42 |
| | | |
| 3294.89 | $m^3$ | VT. ROUTE 118 |
| | | |
| 320.59 | $m^3$ | DRIVEWAYS |
| | | |
| 39.01 | | ROUNDING |
| 4100 | $m^3$ | TOTAL |
| | | |
| | | SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (PG 58-34) |
| 236.31 | † | T.H. #42 |
| | | |
| 1235.93 | † | VT. ROUTE 118 |
| | | |
| 10.51 | † | DRIVEWAYS |
| | | |
| 87.00 | † | BRIDGE |
| | | |
| 30.25 | | ROUNDING |
| 1600 | † | TOTAL |
| | | |
| | | STONE FILL TYPE II |
| 915.0 | $m^3$ | EMBANKMENT STABILIZATION DETAIL I |
| | | |
| 15.18 | $m^3$ | DRAINAGE STRUCTURE |
| | | |
| 5.11 | | ROUNDING |
| 935 | $m^3$ | TOTAL |

**NOTE: WHERE THE TERMINOLOGY "CONCRETE, CLASS A & B (HPC-A &B)" IS FOUND IN THESE PROJECT PLANS, ITS IS INTENDED THAT THESE TWO CLASSES OF CONCRETE MEAN "CONCRETE, HIGH PERFORMANCE CLASS A", & "CONCRETE, HIGH PERFORMANCE CLASS B"**

PROJECT NAME : BERKSHIRE

PROJECT NO. : BRF-RS 0283(7)

DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: QS01.I
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 18-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 3 OF 140

78f184/zf184qs1

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# QUANTITY SHEET

Metric

## SUMMARY OF ESTIMATED QUANTITIES

| | FULL E & C | EMPLOYEE TRAINING | LANDSCAPING | TEMPORARY EROSION CONTROL | BRIDGE | ROADWAY | QUANTITIES GRAND TOTAL | UNIT | ITEMS | ITEM NUMBER | RND |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | | 1 | L.S. | SURFACE PREPARATION, SHOP | 513.40 | — |
| | | | | | 60 | | 60 | 1 | WATER REPELLENT | 514.10 | 7.0 |
| | | | | | 10.5 | | 10.5 | m | BRIDGE EXPANSION JOINT | 516.10 | — |
| | | | | | 535 | | 535 | $m^2$ | SHEET MEMBRANE WATER PROOFING (TORCH APPLIED) | 519.20 | 5.0 |
| | | | | | 105 | | 105 | m | BRIDGE RAILING - NETC 2 RAIL | 525.33 | 3.0 |
| | | | | | 1 | | 1 | L.S. | MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECT | 527.10 | — |
| | | | | | 230 | | 230 | $m^2$ | REMOVAL OF BRIDGE PAVEMENT | 529.10 | 10.0 |
| | | | | | 1 | | 1 | EA | PARTIAL REMOVAL OF STRUCTURE (MOD) | 529.20 | — |
| | | | | | 10 | | 10 | EA | BEARING DEVICE ASSEMBLY | 531.10 | — |
| | | | | | | | | | •••••••• BEGIN OPTION PIPES •••••••• | | |
| | | | | | | 19 | 19 | m | 300 mm CSP 1.63mm (68mm x 12mm) | 601.0005 | 0.7 |
| | | | | | | 19 | 19 | m | 300 mm CAAP 1.52mm (68 mm x 12mm) | 601.0205 | 0.7 |
| | | | | | | 19 | 19 | m | 300 mm CPEP | 601.0905 | 0.7 |
| | | | | | | 12 | 12 | m | 300 mm CSP 1.63mm (68mm x 12mm) | 601.0005 | 0.6 |
| | | | | | | 12 | 12 | m | 300 mm CAAP 1.63mm (68 mm x 12mm) | 601.0205 | 0.6 |
| | | | | | | 50 | 50 | m | 450 mm CAAP 1.52mm (68 mm x 12mm) | 601.0215 | 1.8 |
| | | | | | | 50 | 50 | m | 450 mm PCCSP 1.63mm (68 mm x 12mm) | 601.0415 | 1.8 |
| | | | | | | 50 | 50 | m | 450 mm CPEP | 601.0915 | 1.8 |
| | | | | | | 75 | 75 | m | 750 mm CAAP 1.91 mm (68 mm x 12mm) | 601.0236 | 1.5 |
| | | | | | | 75 | 75 | m | 750 mm PCCSP 2.01 mm (68mm x 12mm) | 601.0436 | 1.5 |
| | | | | | | 75 | 75 | m | 750 mm CPEP | 601.0925 | 1.5 |
| | | | | | 8 | | 8 | EA | 300 mm CSP ELBOW 1.63mm (68mm x 12mm) | 601.5005 | — |
| | | | | | 8 | | 8 | EA | 300 mm CAAP ELBOW 1.52 mm (68mm x 12mm) | 601.5205 | — |
| | | | | | 5 | | 5 | EA | 450 mm CSPES 1.63 mm (68mm x 12mm) | 601.6015 | — |
| | | | | | 5 | | 5 | EA | 450 mm CAAPES 1.52 mm (68mm x 12mm) | 601.6215 | — |
| | | | | | 5 | | 5 | EA | 450 mm CPEPES | 601.7015 | — |
| | | | | | 3 | | 3 | EA | 750 mm CSPES 2.01 mm (68mm x 12mm) | 601.6036 | — |
| | | | | | 3 | | 3 | EA | 750 mm CAAPES 1.91 mm (68mm x 12mm) | 601.6236 | — |
| | | | | | 3 | | 3 | EA | 750 mm CPEPES | 601.7025 | — |
| | | | | | | | | | •••••••• END OPTION PIPES •••••••• | | |
| | | | | | | 45 | 45 | m | CLEANING EXISTING CULVERT PIPE (GREATER THAN 600mm DIA.) | 601.996 | 0.9 |
| | | | | | | 5 | 5 | $m^3$ | CEMENT RUBBLE MASONRY | 602.15 | 1.86 |
| | | | | | | 7 | 7 | EA | PRECAST REINFORCED CONC. CURB DROP INLET W/CI GRATE | 604.30 | — |
| | | | | | | 1 | 1 | EA | CAST IRON GRATE WITH FRAME, TYPE B | 604.46 | — |
| | | | | | | 5 | 5 | HR | BULLDOZER RENTAL, TYPE 1 (NABI) | 608.10 | EST |
| | | | | | | 5 | 5 | HR | ALL PURPOSE EXCAVATOR RENTAL, TYPE 1 (NABI) | 608.25 | EST |
| | | | | | | 5 | 5 | HR | TRUCK RENTAL (NABI) | 608.37 | EST |
| | | | | | | 5 | 5 | HR | LOADER RENTAL, TYPE 1 (NABI) | 608.40 | EST |
| | | | | | | 450 | 450 | $m^3$ | DUST CONTROL WITH WATER | 609.10 | EST |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|

PROJECT NAME : BERKSHIRE

PROJECT NO. : BRF-RS 0283(7)

DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: QS02.I
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 18-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 4 OF 140

78f184/zf184qsz

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# QUANTITY SHEET

Metric

## SUMMARY OF ESTIMATED QUANTITIES

| FULL E & C | EMPLOYEE TRAINING | LANDSCAPING | TEMPORARY EROSION CONTROL | BRIDGE | ROADWAY | QUANTITIES GRAND TOTAL | UNIT | ITEMS | ITEM NUMBER | RND |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | | | | 1 | 1 | t | DUST AND ICE CONTROL WITH CALCIUM CHLORIDE | 609.15 | EST |
| | | | | | | | | | | |
| | | | 10 | | | 10 | $m^3$ | STONE FILL TYPE I (MOD 1) | 613.10 | |
| | | | 10 | | | 10 | $m^3$ | STONE FILL TYPE I (MOD 2) | 613.10 | |
| | | | | | 935 | 935 | $m^3$ | STONE FILL TYPE II | 613.11 | 0.4 |
| | | | | | | | | | | |
| | | | | 763 | 1747 | 2510 | $m^3$ | STONE FILL TYPE IV | 613.13 | 8.8 |
| | | | | | | | | | | |
| | | | | | 365 | 365 | m | TREATED TIMBER CURB | 616.35 | 4.7 |
| | | | | | | | | | | |
| | | | | | 16 | 16 | EA | BOUNDARY MARKERS | 619.10 | — |
| | | | | | | | | | | |
| | | | | | 13 | 13 | EA | YIELDING MARKER POSTS | 619.17 | — |
| | | | | | | | | | | |
| | | | | | 4 | 4 | EA | REMOVING & RESETTING PROPERTY MARKERS | 619.20 | — |
| | | | | | | | | | | |
| | | | | | 220 | 220 | m | REMOVAL OF EXISTING FENCE | 620.55 | 2 |
| | | | | | | | | | | |
| | | | | | 5 | 5 | m | PLANK RAIL | 621.15 | 0.1 |
| | | | | | | | | | | |
| | | | | | 552 | 552 | m | STEEL BEAM GUARD RAIL | 621.20 | 0.9 |
| | | | | | | | | | | |
| | | | | | 5 | 5 | m | STEEL BEAM GUARD RAIL (MOD)(WITH 2.4m POSTS) | 621.20 | EST |
| | | | | | | | | | | |
| | | | | | 6 | 6 | EA | MANUFACTURED TERMINAL SECTION | 621.505 | — |
| | | | | | | | | | | |
| | | | | | 4 | 4 | EA | ANCHOR FOR STEEL BEAM RAIL | 621.60 | — |
| | | | | | | | | | | |
| | | | | | 4 | 4 | EA | GUARD RAIL APPROACH SECTION, NETC 2 RAIL | 621.72 | — |
| | | | | | | | | | | |
| | | | | | 43 | 43 | m | REMOVAL AND DISPOSAL OF GUARD RAIL | 621.80 | — |
| | | | | | | | | | | |
| | | | | 2 | | 2 | EA | SETTLEMENT PLATFORM, TYPE I | 623.21 | — |
| | | | | | | | | | | |
| | | | | 3 | | 3 | EA | SETTLEMENT PLATFORM, VIBRATING WIRE | 623.23 | — |
| | | | | | | | | | | |
| | | | | 3 | | 3 | EA | PIEZOMETER, VIBRATING WIRE | 623.40 | — |
| | | | | | | | | | | |
| | | | | | 125 | 125 | HR | UNIFORMED TRAFFIC OFFICERS | 630.10 | 1.0 |
| | | | | | | | | | | |
| | | | | | 600 | 600 | HR | FLAGGERS | 630.15 | — |
| | | | | | | | | | | |
| | 1 | | | | | 1 | L.S. | FIELD OFFICE - ENGINEERS | 631.10 | — |
| | | | | | | | | | | |
| | 1 | | | | | 1 | L.S. | TESTING EQUIPMENT - CONCRETE | 631.16 | — |
| | | | | | | | | | | |
| | 1 | | | | | 1 | L.S. | TESTING EQUIPMENT - BITUMINOUS | 631.17 | — |
| | | | | | | | | | | |
| | 1 | | | | | 1 | L.S. | TESTING EQUIPMENT - PROTECTIVE COATING | 631.18 | — |
| | | | | | | | | | | |
| | 1 | | | | | 1 | LU | FIELD OFFICE TELEPHONE (NABI) | 631.25 | — |
| | | | | | | | | | | |
| | | 1040 | | | | 1040 | HR | EMPLOYEE TRAINEESHIP | 634.10 | EST |
| | | | | | | | | | | |
| | | | | | 1 | 1 | L.S. | MOBILIZATION | 635.10 | — |
| | | | | | | | | | | |
| | | | | | 310 | 310 | m | 100 mm WHITE LINE | 646.20 | 10 |
| | | | | | | | | | | |
| | | | | | 310 | 310 | m | 100 mm YELLOW LINE | 646.21 | 10 |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|
| | | |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|
| | | |

PROJECT NAME : BERKSHIRE

PROJECT NO. : BRF-RS 0283(7)

DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: QS03.I
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 18-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 5 OF 140

78f184/zf184qs3

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# QUANTITY SHEET

Metric

## SUMMARY OF ESTIMATED QUANTITIES

| FULL E & C | EMPLOYEE TRAINING | LANDSCAPING | TEMPORARY EROSION CONTROL | BRIDGE | ROADWAY | QUANTITIES GRAND TOTAL | UNIT | ITEMS | ITEM NUMBER | RND |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1050 | 1050 | m | DURABLE 100 mm WHITE LINE | 646.40 | 2 |
| | | | | | 1040 | 1040 | m | DURABLE 100 mm YELLOW LINE | 646.41 | 10 |
| | | | | | 15 | 15 | m | DURABLE 600 mm STOP BAR | 646.46 | 1 |
| | | | | | 13 | 13 | EA | DURABLE LETTER OR SYMBOL | 646.50 | — |
| | | | | | 300 | 300 | m | TEMPORARY 100 mm WHITE LINE | 646.60 | EST |
| | | | | | 300 | 300 | m | TEMPORARY 100 mm YELLOW LINE | 646.61 | EST |
| | | | | | 15 | 15 | m | TEMPORARY 600 mm STOP BAR | 646.66 | 1 |
| | | | | | 13 | 13 | EA | TEMPORARY LETTER OR SYMBOL | 646.70 | — |
| | | | | | 60 | 60 | EA | LINE STRIPING TARGETS | 646.76 | — |
| | | | | | 10 | 10 | $m^2$ | REMOVAL OF EXISTING PAVEMENT MARKINGS | 646.85 | 1.6 |
| | | | | | 525 | 525 | $m^2$ | GEOTEXTILE FOR ROADBED SUBGRADE SEPARATOR | 649.11 | 3 |
| | | | | 35 | 5165 | 5200 | $m^2$ | GEOTEXTILE UNDER STONE FILL | 649.31 | 6 |
| | | | 1860 | | | 1860 | $m^2$ | GEOTEXTILE FABRIC FOR SILT FENCE | 649.51 | 4 |
| | | | 75 | | | 75 | kg | SEED | 651.15 | 4 |
| | | | 1 | | | 1 | kg | SEED (MODIFIED) (NORTHEAST WETLAND DIVERSITY MIX) | 651.15 | EST |
| | | | 5 | | | 5 | kg | SEED, WINTER RYE | 651.17 | EST |
| | | | 575 | | | 575 | kg | FERTILIZER | 651.18 | 7 |
| | | | 5 | | | 5 | t | AGRICULTURAL LIMESTONE | 651.20 | 0.4 |
| | | | 5 | | | 5 | t | HAY MULCH | 651.25 | 0.4 |
| | | | 250 | | | 250 | EA | HAY BALES FOR EROSION CONTROL | 651.26 | EST |
| | | | | | 410 | 410 | $M^3$ | TOPSOIL | 651.35 | 2 |
| | | | | | 2000 | 2000 | $M^2$ | GRUBBING MATERIAL | 651.40 | 23 |
| | | | 1 | | | 1 | LS | EROSION & SEDIMENT CONTROL PLAN | 652.10 | |
| | | | 250 | | | 250 | HR | MONITORING EROSION & SEDIMENT CONTROL PLAN | 652.20 | |
| | | | 1 | | | 1 | LU | FIELD MAINT. OF EROSION & SEDIMENT CONTROL PLAN (NABI) | 652.30 | |
| | | | | | | | | •••••••• DECIDUOUS SHRUBS •••••••• | | |
| | | 40 | | | | 40 | EA | CORNUS SERICEA (RED-OSIER DOGWOOD) (60-90 CM CONT.) | 656.35 | — |
| | | 20 | | | | 20 | EA | ILEX VERTICULATA (WINTERBERRY) (60-90 CM CONT.) | 656.35 | — |
| | | 20 | | | | 20 | EA | SALIX PURPUREA (STREAMCO WILLOW) (60 CM ROOTED CUTTINGS) | 656.35 | — |
| | | | | | 5 | 5 | $m^2$ | TRAFFIC SIGNS, TYPE A | 675.20 | 0.14 |
| | | | | | | | | —— BEGIN OPTION POSTS —— | | |
| | | | | | 80 | 80 | m | FLANGED CHANNEL SIGN POSTS | 675.301 | 6.2 |
| | | | | | 80 | 80 | M | SQUARE TUBE STEEL POSTS AND ANCHORS | 675.341 | |
| | | | | | | | | —— END OPTION POSTS —— | | |
| | | | | | 20 | 20 | EA | REMOVING SIGNS | 675.50 | — |

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|

## DETAILED SUMMARY OF QUANTITIES

| QUANTITIES | UNIT | ITEMS |
|---|---|---|

| | |
|---|---|
| PROJECT NAME : BERKSHIRE | PROJECT NO. : BRF-RS 0283(7) |
| DESIGN FILE NAME: 02837FRM.DGN | |
| IPARM FILE NAME: QS04.1 | PLOT DATE: 18-FEB-2000 |
| SURVEYED BY: | SURVEY DATE: |
| SQUAD LEADER: | DRAWN BY: C. MABY |
| | SHEET: 6 OF 140 |

78f184/zf184QS4

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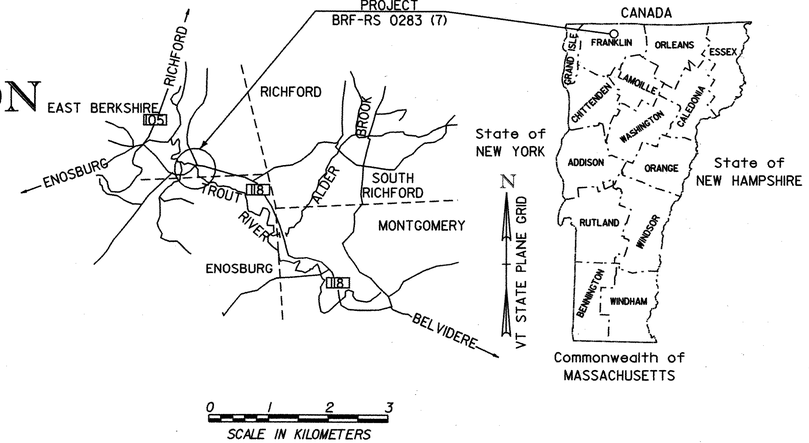
# STATE OF VERMONT
# AGENCY OF TRANSPORTATION



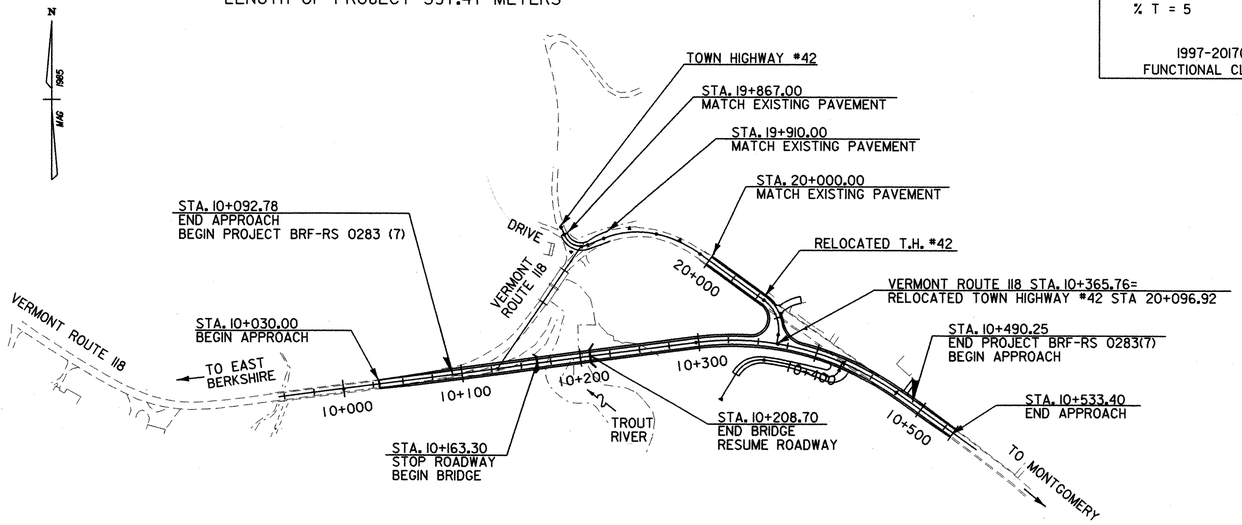

# PROPOSED IMPROVEMENT
# TOWN OF BERKSHIRE
# COUNTY OF FRANKLIN
# VERMONT ROUTE 118 (F.A.S.)

BEGINNING AT A POINT APPROXIMATELY 1142.90 METERS WEST OF THE ENOSBURG-BERKSHIRE TOWN LINE AND EXTENDING EASTERLY 397.47 METERS

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF BRIDGE # 26 OVER THE TROUT RIVER AND NECESSARY ROADWAY APPROACHES INCLUDING A NEW INTERSECTION FOR ACCESS TO T.H. #42

LENGTH OF STRUCTURE 45.40 METERS
LENGTH OF ROADWAY 352.07 METERS
LENGTH OF PROJECT 397.47 METERS

| TRAFFIC DATA | |
|---|---|
| 1997 ADT = 1760 | 2017 ADT = 2390 |
| DHV = 245 | DHV = 335 |
| ADTT = 130 | ADTT = 150 |
| % T = 5 | % T = 5 |
| % D = 56 | |
| V = 80 km/h | |
| 1997-2017(20YR) 18 K ESAL = 1,759,000 | |
| FUNCTIONAL CLASSIFICATION : MAJOR COLLECTOR | |




CONVENTIONAL SIGNS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

STATE OF VERMONT
CHARLES F. WOOD JR.
#6398
REGISTERED
PROFESSIONAL ENGINEER
Charles F. Wood Jr. 2/22/2000

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

McFARLAND-JOHNSON, INC.
BINGHAMTON N.Y.

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

VAOT Metric

SUBMITTED BY ORDER OF THE STATE TRANSPORTATION BOARD
APPROVED _____ DATE 10/2/00
DIRECTOR OF ENGINEERING

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
APPROVED _____ DATE _____
DIVISION ADMINISTRATOR

PROJECT BRF-RS 0283(7)
BERKSHIRE
SHEET 7 OF 140 SHEETS

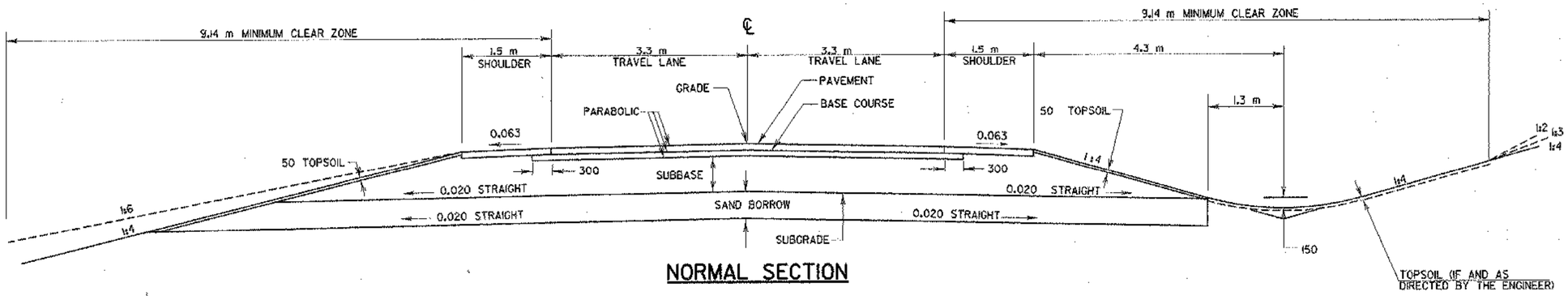
78f184/zf184TiT

# TYPICAL SECTIONS
## VERMONT ROUTE 118

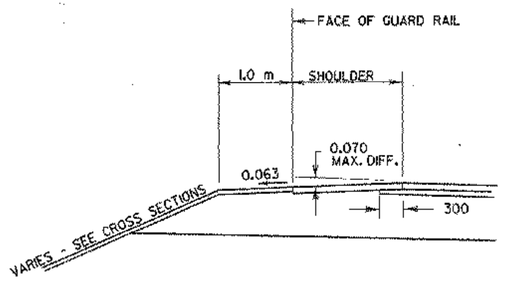
TRAVEL LANES: 115 ~~90~~ SUPERPAVE BITUMINOUS CONCRETE PAVEMENT ( 40 TYPE II OVER 75 ~~50~~ TYPE II)
100 ~~75~~ BASE COURSE OF BITUMINOUS CONCRETE PAVEMENT (TYPE I, ONE LIFT)
610 SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
460 SAND BORROW

SHOULDERS: 90 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

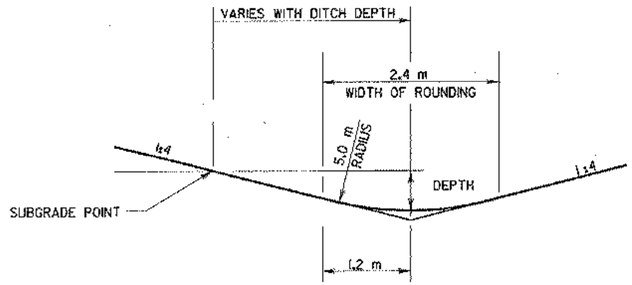
| MATERIAL ITEM | THICKNESS TOLERANCE |
|---|---|
| PAVEMENT (TOTAL DEPTH) | +/- 5 |
| SUBBASE | +/- 30 |
| SAND BORROW | +/- 30 |



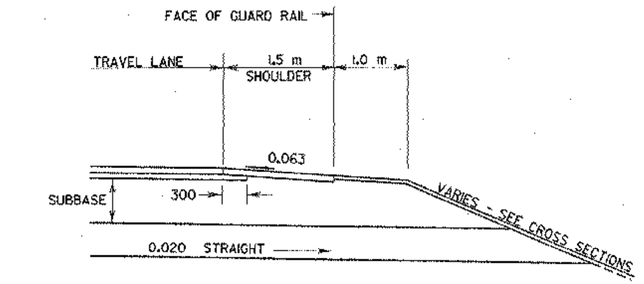

## NORMAL SECTION



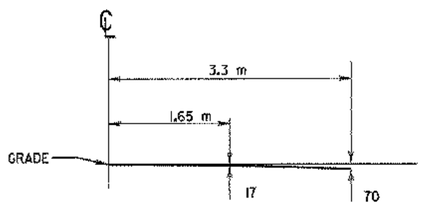

## DETAIL OF GUARD RAIL ON HIGH SIDE OF BANKED SECTION




## TYPICAL DITCH DETAIL




## NORMAL SECTION WITH GUARD RAIL




## PARABOLIC DETAIL

## GENERAL NOTES

1. SEED - TO BE APPLIED PER SEEDING FORMULAS AS DIRECTED BY THE ENGINEER.
2. FERTILIZER - FORMULA 10-20-10 TO BE USED WITH SEED, APPLIED AT THE RATE OF 560 kg/ha. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA).
3. AGRICULTURAL LIMESTONE - TO BE APPLIED AT A RATE OF 4500 kg/ha OR AS DIRECTED BY THE ENGINEER.
4. HAY MULCH - TO BE PLACED ON EARTH SLOPES AT THE RATE OF 4500 kg/ha OR AS DIRECTED BY THE ENGINEER.
5. TOPSOIL - TO BE USED WITH SEED, AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
6. MARKER POSTS - TO BE PLACED AS DIRECTED BY THE ENGINEER.
7. SLOPE ROUNDING - ALL CUT SLOPES TO BE ROUNDED IN ACCORDANCE WITH STANDARD SHEET B-5.
8. PAY LIMITS OF SAND BORROW WHEN USED IN CONJUNCTION WITH UNDERDRAIN - SEE STANDARD SHEET D-2
9. MILEMARKERS DISTURBED BY CONSTRUCTION SHALL BE RESET BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER WITH PAYMENT TO BE SUBSIDIARY TO OTHER ITEMS OF WORK.
10. TACK COAT - EMULSIFIED ASPHALT IS TO BE APPLIED AT THE RATE OF 0.07 l/m$^2$ BETWEEN SUCCESSIVE COURSES OF PAVEMENT AS DIRECTED BY THE ENGINEER.
11. BITUMINOUS CONCRETE PAVEMENT WILL REQUIRE PERFORMANCE GRADED ASPHALT, 58-34.

## SEEDING FORMULA

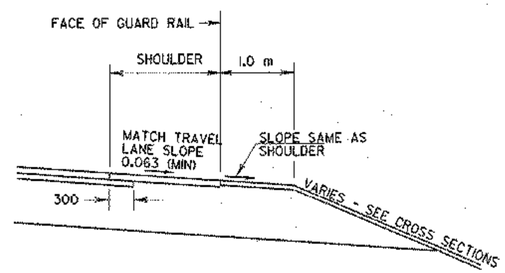
### RURAL AREAS

| % WT. | kg /ha | NAME | PUR. % | GERM % |
|---|---|---|---|---|
| 37.5 | 26 | CREEPING RED FESCUE | 98 | 85 |
| 37.5 | 26 | TALL FESCUE | 95 | 90 |
| 5.0 | 4 | RED TOP | 95 | 90 |
| 15.0 | 10 | BIRDSFOOT TREFOIL | 98 | 85 |
| 5.0 | 4 | ANNUAL RYEGRASS | 95 | 85 |
| 100.0 | 70 | | | |

### URBAN AREAS (LAWNS)

| % WT. | kg /ha | NAME | PUR. % | GERM % |
|---|---|---|---|---|
| 42.5 | 38 | CREEPING RED FESCUE | 98 | 85 |
| 10.0 | 9 | PERENNIAL RYEGRASS | 95 | 90 |
| 42.5 | 38 | KENTUCKY BLUEGRASS | 85 | 85 |
| 5.0 | 5 | ANNUAL RYEGRASS | 95 | 85 |
| 100.0 | 90 | | | |

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40 % BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS WEED SEED.




## DETAIL OF GUARD RAIL ON LOW SIDE OF BANKED SECTION

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

ALL DETAILS "N.T.S." (NOT TO SCALE)
ALL DIMENSIONS IN MILLIMETERS EXCEPT AS INDICATED

**TYPICAL SECTIONS**

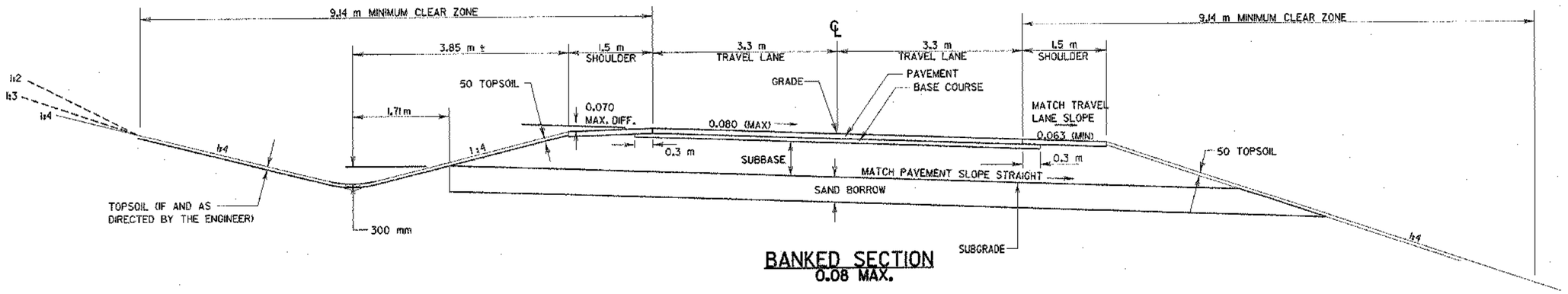
PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: 02837TYI.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 18-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 8 OF 140

78f184/2f184TY1

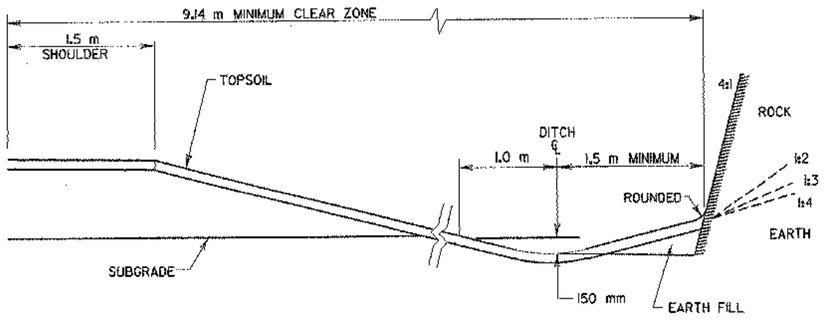
# TYPICAL SECTIONS
## VERMONT ROUTE 118

TRAVEL LANES: ~~90~~ 115 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT ( 40 TYPE III OVER ~~50~~ 75 TYPE II)
100~~75~~ BASE COURSE OF BITUMINOUS CONCRETE PAVEMENT (TYPE I, ONE LIFT)
610 SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
460 SAND BORROW

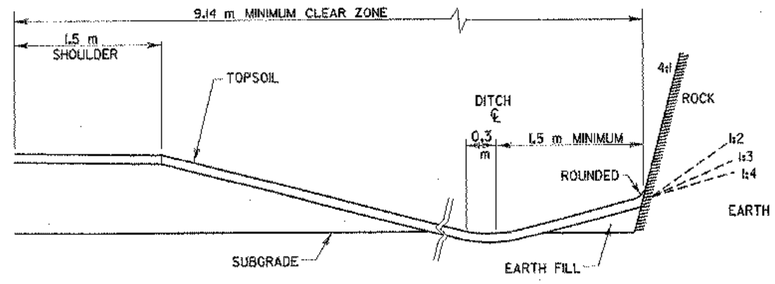
SHOULDERS: 90 SUPEREPAVE BITUMINOUS CONCRETE PAVEMENT




BANKED SECTION
0.08 MAX.




DETAILS OF DITCH AND BACKSLOPE FOR
LOW SIDE OF BANK < 0.042




DETAILS OF DITCH AND BACKSLOPE FOR
LOW SIDE OF BANK ≥ 0.042

ALL DETAILS "N.T.S." (NOT TO SCALE)
ALL DIMENSIONS IN MILLIMETERS EXCEPT AS INDICATED

| | | |
|---|---|---|
| **TYPICAL SECTIONS** | PROJECT: BERKSHIRE | PROJECT NO.: BRF-RS 0283(7) |
| | DESIGN FILE NAME: 02837FRM.DGN<br>IPARM FILE NAME: 02837TY2.I<br>SURVEYED BY:<br>SQUAD LEADER: | PLOT DATE: 18-FEB-2000<br>SURVEY DATE:<br>DRAWN BY: C. MABY<br>SHEET: 9 OF 140 |

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

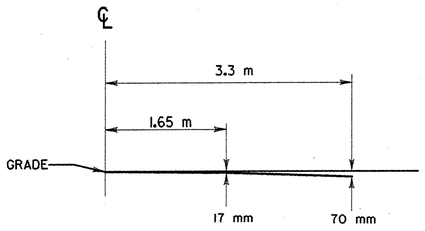
78f184/zf184TY2

# TYPICAL SECTIONS
## RELOCATED T.H. #42

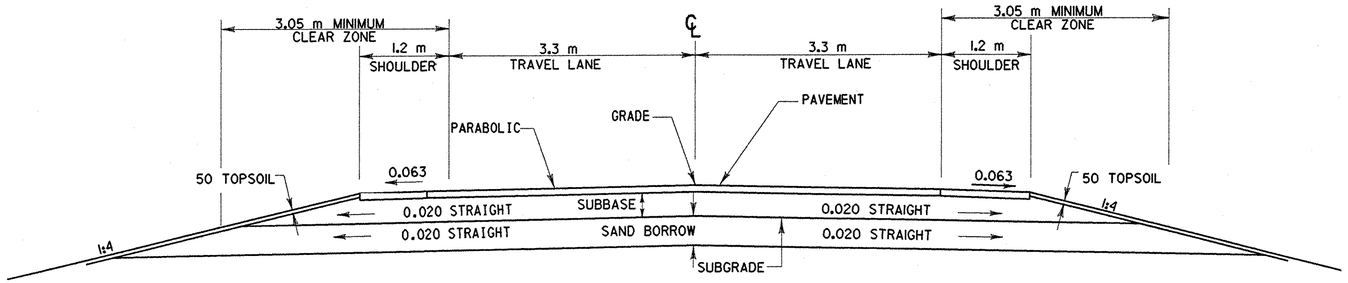
TRAVEL LANES: 90 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT (40 TYPE III, OVER 50 TYPE II)
305 SUBBASE OF CRUSHED GRAVEL (COARSE GRADED)
0-305 SAND BORROW (AS DIRECTED BY THE ENGINEER)

SHOULDERS: 90 SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

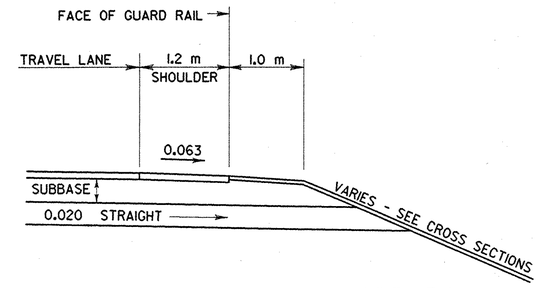
| MATERIAL ITEM | THICKNESS TOLERANCE |
|---|---|
| PAVEMENT | ± 5 mm |
| SUBBASE | ± 30 mm |
| SAND BORROW | ± 30 mm |



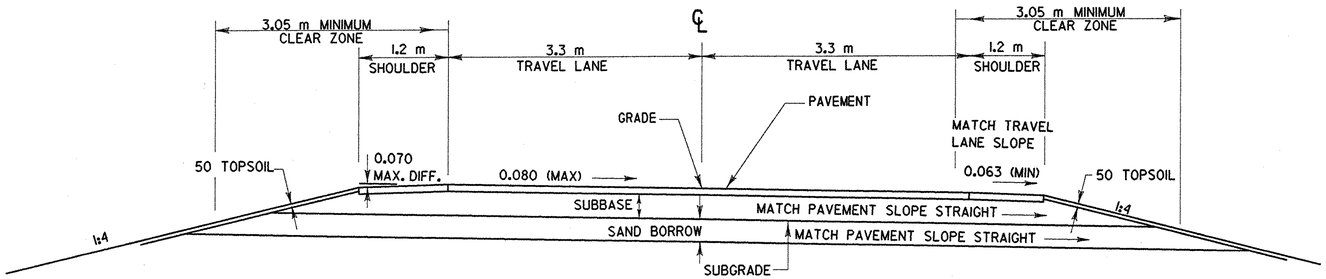

PARABOLIC DETAIL



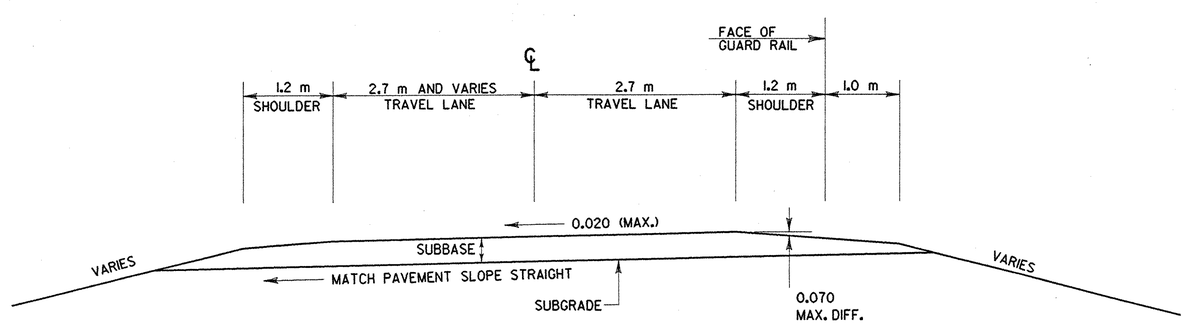

NORMAL SECTION



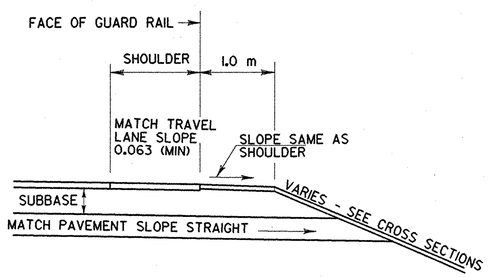

NORMAL SECTION WITH GUARD RAIL




BANKED SECTION
0.08 MAX.




STA. 19+867 TO STA. 19+910
0.02 MAX.




DETAIL OF GUARD RAIL ON LOW SIDE OF BANKED SECTION

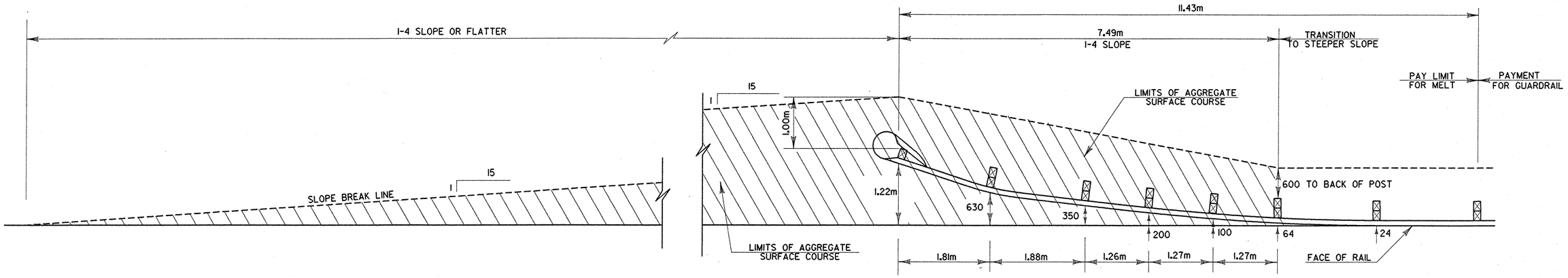
ALL DETAILS "N.T.S." (NOT TO SCALE)
ALL DIMENSIONS IN MILLIMETERS EXCEPT AS INDICATED

| DATUM | |
|---|---|
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

**TYPICAL SECTIONS**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: 02837TY3.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 18-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 10 OF 140

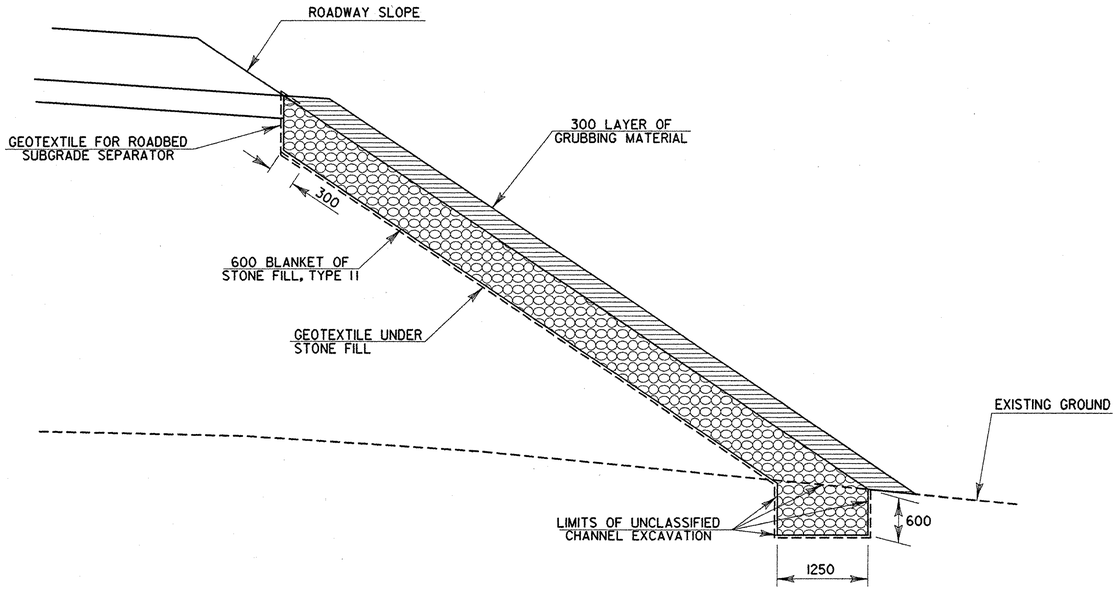
78f184/zf184TY3




## AGGREGATE SURFACE COURSE AT Guardrail TERMINAL DETAIL

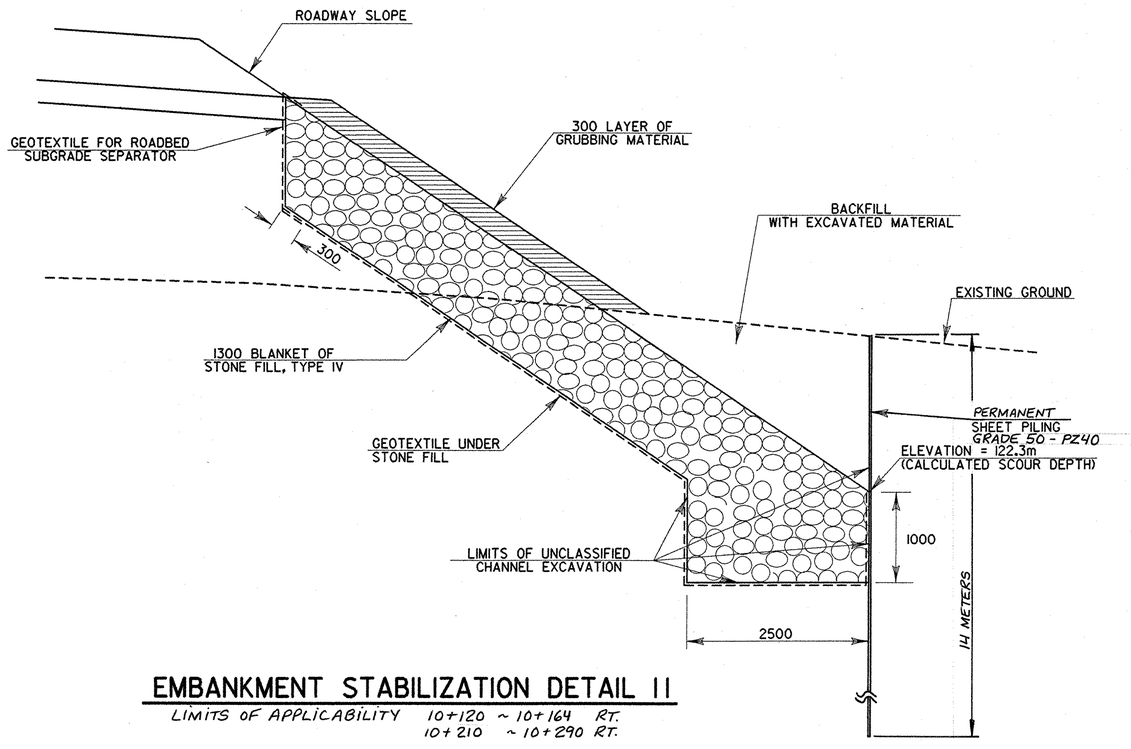
NOTE:

DESIRABLY A 1-4 OR FLATTER FILL SLOPE SHOULD BE USED, BUT IF THIS IS IMPRACTICAL, A MAXIMUM 1-3 SLOPE MAY BE USED.




## EMBANKMENT STABILIZATION DETAIL I

LIMITS OF APPLICABILITY 10+290 ~ 10+350 RT.




## EMBANKMENT STABILIZATION DETAIL II

LIMITS OF APPLICABILITY 10+120 ~ 10+164 RT.
10+210 ~ 10+290 RT.

ALL DETAILS "N.T.S." (NOT TO SCALE)
ALL DIMENSIONS IN MILLIMETERS EXCEPT AS INDICATED

REVISED
NOV 10 2003

| DATUM | |
|---|---|
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

**MISCELLANEOUS DETAILS**

| | |
|---|---|
| PROJECT: BERKSHIRE | PROJECT NO.: BRF-RS 0283(7) |
| DESIGN FILE NAME: 02837FRM.DGN | |
| IPARM FILE NAME: 02837MIS.I | PLOT DATE: 18-FEB-2000 |
| SURVEYED BY: | SURVEY DATE: |
| SQUAD LEADER: | DRAWN BY: R. REMY |
| | SHEET: 11 OF 140 |

78f184/zf184mis

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# DRAINAGE DETAIL SHEET

Metric

## DRAINAGE STRUCTURES

| STATION km + m | STATION km + m | POS. | ASKEW | INLET/OUTLET TYPE INLET | INLET/OUTLET TYPE OUTLET | DITCH IN | DITCH OUT | PIPE ARCH SPAN mm | PIPE ARCH RISE mm | PIPE ARCH L m | PIPE D mm | PIPE L m | ALLOWABLE OPTIONS PCCSP mm | CAAP mm | RCP CL | CSP mm | CPEP | PCCSP PL mm | PIPE ELBOW NO. DEG | ES EA | CB EA | PRECAST | DEPTH DI mm | CONC CL B $m^3$ | REINF STEEL kg | DI GRATE TYPE | CHAN ELEV EA | CRM $m^3$ | TRENCH EXCAVATION EARTH $m^3$ | TRENCH EXCAVATION ROCK $m^3$ | COMM EXC $m^3$ | UNC CHAN EXC $m^3$ | STRUCT EXCAV $m^3$ | GRAN BKFILL STRUCT $m^3$ | GRAN BORR $m^3$ | EROS MATT $m^2$ | STONE FILL $m^3$ | STONE FILL TYPE | MARKER POSTS LT ea | MARKER POSTS RT ea | EARTH BORR $m^3$ | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VT. ROUTE 118 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10+120 | | LT | | | | | | | | | 300 | 4.3 | | 1.6 | | 1.7 | X | | | | | 1 | | | | | | | | | 0.43 | | | | | | | 0.43 | 11 | | 1 | | | INCLUDES C.I. GRATE |
| 10+140 | | LT | | | | | | | | | 300 | 3.7 | | 1.6 | | 1.7 | X | | | | | 1 | | | | | | | | | 0.43 | | | | | | | 0.43 | 11 | 1 | | | | INCLUDES C.I. GRATE |
| 10+220 | | RT | | | | | | | | | 300 | 3.4 | | 1.6 | | 1.7 | X | | | | | 1 | | | | | | | | | | | | | | | | | | 1 | | | INCLUDES C.I. GRATE |
| 10+220 | | LT | | | | | | | | | 300 | 5.5 | | 1.6 | | 1.7 | | | 2-28° | | | 1 | | | | | | | | | 0.43 | | | | | | | 0.43 | 11 | 1 | | | | INCLUDES C.I. GRATE |
| 10+260 | | LT | | ELIMINATED | | | | | | | 300 | 4.6 | | 1.6 | | 1.7 | | | 2-28° | | | 1 | | | | | | | | | 0.43 | | | | | | | 0.43 | 11 | 1 | | | | INCLUDES C.I. GRATE |
| 10+275 | | RT | | | | | | | | | 300 | 5.2 | | 1.6 | | 1.7 | | | 2-28° | | | 1 | | | | | | | | | 0.43 | | | | | | | 0.43 | 11 | | 1 | | | INCLUDES C.I. GRATE |
| 10+290 | 10+280 | RT/LT | | | | | | | | | 750 | 28.0 | 2.1 | 2.0 | | | X | | | 2 | | | | | | | | | | | 4.14 | | | | | | | 4.14 | 11 | 1 | 1 | | | |
| 10+335 | | RT | | | | | | | | | 300 | 3.0 | | 1.6 | | 1.7 | | | 2-28° | | | 1 | | | | | | | | | 0.43 | | | | | | | 0.43 | 11 | | 1 | | | INCLUDES C.I. GRATE |
| 10+423 | 10+410 | LT/RT | | | | | | | | | 750 | 45.5 | 2.1 | 2.0 | | | X | | | 1 | | | | | | | | 3.14 | 97.11 | 2.0 | 4.14 | | | 16.69 | | | 4.14 | 11 | 1 | 1 | | | REMOVE EXISTING PIPE |
| 10+475 | 10+486 | LT/LT | | | | | | | | | 450 | 11.6 | 1.7 | 1.6 | | | X | | | 2 | | | | | | | | | 16.56 | | | | | | | | | | | | | | DRIVEWAY CULVERT BENEATH FILL / REMOVE EXISTING PIPE |
| T. H. #42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19+880 | 19+876 | LT/RT | | | | | | | | | | | | | | | | | | | | | | | | | | | 24.75 | | | | | | | | | | | | 12.38 | | REMOVE EXISTING PIPE |
| 19+888 | 19+890 | LT/RT | | | | | | | | | 450 | 19.1 | 1.7 | 1.6 | | | X | | | 1 | | | | 1.55 | 67.5 | B | | | 75.42 | | 4.32 | | | | | | 4.32 | 11 | 1 | 1 | | | INCLUDES INLET DITCH |
| 20+062 | 20+076 | LT/LT | | | | | | | | | 450 | 17.5 | 1.7 | 1.6 | | | X | | | 2 | | | | | | | | | 16.56 | | | | | | | | | | | | | | DRIVEWAY CULVERT BENEATH FILL / REMOVE EXISTING PIPE |
| WETLAND | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10+225 | 10+237 | LT/LT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 24.75 | | | | | | 24.75 | 11 | | | | | WETLAND CONTROL STRUCTURE (STONE SPILLWAY) |
| TOTALS | | | | | | | | | | | 300 | 18.3 | | (3-WAY OPTION PIPE) | | | | | 8-28° | 8 | | 7 | | 1.55 | 67.5 | 1 | | 3.14 | 230.40 | 2.0 | 39.93 | | | 16.69 | | | 39.93 | 11 | 6 | 7 | 12.38 | | |
| | | | | | | | | | | | 450 | 48.2 | | (3-WAY OPTION PIPE) | | | | | | 5 - 450 E.S. | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 750 | 73.5 | | (3-WAY OPTION PIPE) | | | | | | 3 - 750 E.S. | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 300 | 11.4 | | (2-WAY OPTION PIPE) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | |
|---|---|
| PROJECT NAME : BERKSHIRE | PROJECT NO. : BRF-RS 0283(7) |
| DESIGN FILE NAME: 02837FRM.DGN | |
| IPARM FILE NAME: 02837DRN.I | PLOT DATE: 11-FEB-2000 |
| SURVEYED BY: | SURVEY DATE: |
| SQUAD LEADER: | DRAWN BY: C. MABY |
| | SHEET: 12 OF 140 |

78A84/2A84DDS

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# ITEM DETAIL SHEET

Metric

## GUARD RAIL

| | BEGIN STATION km + m | END STATION km + m | POSITION LEFT m | POSITION RIGHT m | END TREATMENT BEGIN EA | END TREATMENT END EA |
|---|---|---|---|---|---|---|
| | VT. ROUTE 118 | | | | | |
| 10+107.3 | ~~10+076.5~~ | 10+087.9 118.7 | —— | —— | MTS | —— |
| 10+118.7 | ~~10+087.9~~ | 10+152.7 153.0 | —— | ~~64.8~~ 34.3 | STEEL BEAM | |
| | 10+152.7 | 10+160.3 | —— | —— | APP. SECT. TYPE I | |
| 10+114.9 | ~~10+076.5~~ | 10+087.9 126.3 | —— | —— | MTS | —— |
| 10+126.3 | ~~10+087.9~~ | ~~10+152.7~~ 153.0 | ~~64.8~~ 26.7 | —— | STEEL BEAM | |
| 10+153.0 | ~~10+152.7~~ | ~~10+160.3~~ 160.6 | —— | —— | APP. SECT. TYPE I | |
| 10+211.4 | ~~10+211.1~~ | 10+218.7 219.0 | —— | —— | APP. SECT. TYPE I | |
| 10+219.0 | ~~10+218.7~~ | 10+401.6 400.6 | —— | ~~182.9~~ 163.8 | STEEL BEAM | |
| 10+400.6 | ~~10+401.5~~ | 10+413.0 412 | —— | —— | —— | MTS |
| 10+432.2 | ~~10+432.0~~ | 10+~~443.4~~ 443.6 | —— | —— | MTS | —— |
| 10+443.6 | ~~10+443.4~~ | 10+~~515.8~~ 478.6 | —— | ~~34.3~~ ~~72.4~~ | STEEL BEAM | |
| 10+478.6 | ~~10+515.8~~ | 10+527.2 490 | —— | —— | —— | MTS |
| | VT ROUTE 118/T.H. #42 | | | | | |
| 10+211.4 | ~~10+211.1~~ | 10+~~218.7~~ 219.0 | —— | —— | APP. SECT. TYPE I | |
| 10+219.0 | ~~10+218.7~~ | 20+051.5 | ~~141.0~~ 163.8 | —— | STEEL BEAM | |
| | 20+040.0 | 20+051.5 | —— | —— | MTS | —— |
| | RELOCATED T.H. #42 | | | | | |
| | 19+866.2 | | —— | —— | STD G-Id | —— |
| 19+867.0 | ~~19+866.2~~ | ~~19+885.8~~ 890.0 | —— | 24.0 | —— | —— |
| | | 19+885.8 | —— | —— | —— | STD G-Id |
| | OLD ROUTE 118 | | | | | |
| | ~~30+099~~ | 30+100 | —— | 0.6 | STEEL BEAM | |
| | | 30+100 | —— | —— | —— | STD G-Id |
| | ~~30+099~~ | 30+100 | 0.6 | —— | STEEL BEAM | |
| | | 30+100 | —— | —— | —— | STD G-Id |
| | TOTALS | | | 551.1m | STEEL BEAM RAIL | |
| | | | | 6 EA | MTS | |
| | | | | 4 EA | ANCHORS FOR STEEL BEAM RAIL | |
| | | | | 4 EA | G.R. APP. ANCHOR TYPE I | |

NOTE: MTS IS MANUFACTURED TERMINAL SECTION

## UNDERDRAIN

| BEGIN STATION km + m | END STATION km + m | TYPE | POSITION | DIA. mm | LENGTH m | TRENCH EARTH $m^3$ | TRENCH ROCK $m^3$ | GRAN BKFILL $m^3$ | FB EA | MKR PST EA |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |

| BEGIN STATION km + m | END STATION km + m | POSITION LEFT m | POSITION RIGHT m | REMARKS |
|---|---|---|---|---|
| | | | | |

| BEGIN STATION km + m | END STATION km + m | POSITION LEFT m | POSITION RIGHT m | REMARKS |
|---|---|---|---|---|
| | | | | |

| BEGIN STATION km + m | END STATION km + m | POSITION LEFT m | POSITION RIGHT m | REMARKS |
|---|---|---|---|---|
| | | | | |

PROJECT NAME : BERKSHIRE

PROJECT NO. : BRF-RS 0283(7)

DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: 02837ITM.I
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 13 OF 140

78f184/zf184ids

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# EARTHWORKS

Metric

| STATION km + m | DIST m | TOTAL EXCAVATION EARTH AND ROCK AREA m² | TOTAL EXCAVATION EARTH AND ROCK VOLUME m³ | ROCK EXCAVATION AREA m² | ROCK EXCAVATION VOLUME m³ | EMBANKMENT AREA m² | EMBANKMENT VOLUME m³ | AREA m² | VOLUME m³ |
|---|---|---|---|---|---|---|---|---|---|
| VT. ROUTE 118 | | | | | | | | | |
| 10+030 | | 0.0 | | | | 0.0 | | | |
| | 20 | | 12.0 | | | | 6.0 | C = 392.0 | |
| 10+050 | | 1.2 | | | | 0.6 | | F = 660.0 | |
| | | | 122.0 | | | | 7.0 | F. FAC.= 0.15 | |
| 10+070 | | 11.0 | | | | 0.1 | | EX. F. = 367 | |
| | | | 181.0 | | | | 7.0 | | |
| 10+090 | | 7.1 | | | | 0.6 | | | |
| | | | 74.0 | | | | 11.0 | | |
| 10+110 | | 0.3 | | | | 0.5 | | | |
| | | | 3.0 | | | | 95.0 | | |
| 10+130 | | 0.0 | | | | 9.0 | | | |
| | 20 | | | | | | 275.0 | | |
| 10+150 | | | | | | 18.5 | | | |
| | 14 | | | | | | 259.0 | | |
| 10+164 | STOP ROADWAY BEGIN BRIDGE | | | | | 18.5 | | | |
| | | | | | | | | | |
| 10+208 | END BRIDGE RESUME ROADWAY | | | | | 53.2 | | | |
| | 2 | | | | | | 106.4 | C = 0.0 | |
| 10+210 | | | | | | 53.2 | | F = 6350.4 | |
| | 20 | | | | | | 1080.0 | F. FAC.= 0.15 | |
| 10+230 | | | | | | 54.8 | | EX. F. = 7303 | |
| | | | | | | | 1168.0 | | |
| 10+250 | | | | | | 62.0 | | | |
| | | | | | | | 1277.0 | | |
| 10+270 | | | | | | 65.7 | | | |
| | | | | | | | 1352.0 | | |
| 10+290 | | | | | | 69.5 | | | |
| | | | | | | | 1367.0 | | |
| 10+310 | | | | | | 67.2 | | | |
| | 20 | | | | | | 1170.0 | | |
| 10+330 | | | | | | 49.8 | | | |
| | 13 | | | | | | 647.4 | C = 6.0 | |
| 10+343 | | | | | | 49.8 / 24.1 | | F = 5180.3 | |
| | 7 | | | | | | 168.7 | F. FAC.= 0.15 | |
| 10+350 | | | | | | 24.1 | | EX. F. = 5951 | |
| | 20 | | | | | | 444.0 | | |
| 10+370 | | | | | | 20.3 | | | |
| | 16 | | | | | | 324.8 | | |
| 10+386 | | | | | | 20.3 / 40.1 | | | |
| | 4 | | | | | | 160.4 | | |
| 10+390 | | | | | | 40.1 | | | |
| | 20 | | | | | | 828.0 | | |
| 10+410 | | | | | | 42.7 | | | |
| | | | | | | | 869.0 | | |
| 10+430 | | 0.0 | | | | 44.2 | | | |
| | | | 6.0 | | | | 568.0 | | |
| 10+450 | | 0.6 | | | | 12.6 | | | |
| | | | 89.0 | | | | 138.0 | | |
| 10+470 | | 8.3 | | | | 1.2 | | | |
| | | | 136.0 | | | | 22.0 | C = 528.1 | |
| 10+490 | | 5.3 | | | | 1.0 | | F = 170.0 | |
| | | | 155.0 | | | | 10.0 | F. FAC.= 0.15 | |
| 10+510 | | 10.2 | | | | 0.0 | | EX. C. = 333 | |
| | 20 | | 189.0 | | | | | | |
| 10+530 | | 8.7 | | | | | | | |
| | 3 | | 13.1 | | | | | | |
| 10+533 | | 0.0 | | | | | | | |

| STATION km + m | DIST m | TOTAL EXCAVATION EARTH AND ROCK AREA m² | TOTAL EXCAVATION EARTH AND ROCK VOLUME m³ | ROCK EXCAVATION AREA m² | ROCK EXCAVATION VOLUME m³ | EMBANKMENT AREA m² | EMBANKMENT VOLUME m³ | AREA m² | VOLUME m³ |
|---|---|---|---|---|---|---|---|---|---|
| T.H. #42 | | | | | | | | | |
| 19+867 | | 1.9 | | | | | | | |
| | 3 | | 5.7 | | | | | C = 257.7 | |
| 19+870 | | 1.9 | | | | | | F = 2447.5 | |
| | 10 | | 21.5 | | | | | F. FAC.= 0.15 | |
| 19+880 | | 2.4 | | | | | | EX. F. = 2557 | |
| | 10 | | 48.0 | | | | | | |
| 19+890 | | 7.2 | | | | | | | |
| | 10 | | 65.0 | | | | | | |
| 19+900 | | 5.8 | | | | | | | |
| | 10 | | 43.5 | | | | | | |
| 19+910 | | 2.9 / 0.0 | | | | | | | |
| | 90 | | 0.0 | | | | | | |
| 20+000 | | 0.0 | | | | 0.0 | | | |
| | 20 | | 37.0 | | | | 57.0 | | |
| 20+020 | | 3.7 | | | | 5.7 | | | |
| | | | 37.0 | | | | 289.0 | | |
| 20+040 | | 0.0 | | | | 23.2 | | | |
| | | | | | | | 655.0 | | |
| 20+060 | | | | | | 42.3 | | | |
| | 20 | | | | | | 868.0 | | |
| 20+080 | | | | | | 44.5 | | | |
| | 13 | | | | | | 578.5 | | |
| 20+093 | | | | | | 44.5 | | | |
| OLD VT. ROUTE 118 | | | | | | | | | |
| 30+002 | | 0.0 | | | | | | | |
| | 8 | | 18.4 | | | | | C = 842.3 | |
| 30+010 | | 4.6 | | | | | | F = 0.0 | |
| | 10 | | 97.0 | | | | | F. FAC.= 0.15 | |
| 30+020 | | 14.8 | | | | | | EX. C. = 842 | |
| | 20 | | 355.0 | | | | | | |
| 30+040 | | 20.7 | | | | | | | |
| | 20 | | 304.0 | | | | | | |
| 30+060 | | 9.7 | | | | | | | |
| | 7 | | 67.9 | | | | | | |
| 30+067 | | 9.7 | | | | | | | |
| DRIVEWAYS @STA 10+423 RT | | | | | | | | | |
| 40+025 | | | | | | 0.0 | | | |
| | 21 | | | | | | 71.4 | C = 0.0 | |
| 40+046 | | | | | | 6.8 | | F = 1769.0 | |
| | 19 | | | | | | 164.4 | F. FAC.= 0.15 | |
| 40+065 | | | | | | 10.5 | | EX. F. = 2034 | |
| | 19 | | | | | | 306.9 | | |
| 40+084 | | | | | | 21.8 | | | |
| | 19 | | | | | | 663.1 | | |
| 40+103 | | | | | | 48.0 | | | |
| | 19 | | | | | | 456.0 | | |
| 40+122 | | | | | | 0.0 | | | |
| @STA 20+070 LT | | | | | | | 91.9 | | |
| @STA 10+482 LT | | | | | | | 15.3 | | |

| STATION km + m | DIST m | TOTAL EXCAVATION EARTH AND ROCK AREA m² | TOTAL EXCAVATION EARTH AND ROCK VOLUME m³ | ROCK EXCAVATION AREA m² | ROCK EXCAVATION VOLUME m³ | EMBANKMENT AREA m² | EMBANKMENT VOLUME m³ | AREA m² | VOLUME m³ |
|---|---|---|---|---|---|---|---|---|---|
| WETLAND MITIGATION IMPACT AREA | | | | | | | | | |
| TOPSOIL | | | •620.0 | | | | 620.0 | C = 1898.0 | |
| SILT | | | •620.0 | | | | 620.0 | F = 1240.0 | |
| | | | | | | | | F.FAC. = 0.15 | |
| | | | | | | | | EX. C. = 472 | |
| MITIGATION AREA | | | | | | | | | |
| TOPSOIL | | | •790.0 | | | | | | |
| SILT | | | •790.0 | | | | | | |
| SUBSOIL | | | 1898.0 | | | | | | |
| • UNAVAILABLE FOR FILL | | | | | | | | | |
| WETLAND MITIGATION MEASURES | | | | | | | | | |

| STOCKPILE | PLANTING AREA A m³ | B m³ | C m³ | D m³ | TOTAL m³ | EXCESS m³ |
|---|---|---|---|---|---|---|
| A - REQUIRED | | 273 | | | 273 | |
| A - AVAILABLE | | | | | 620 | 347 |
| B - REQUIRED | | | 165 | 106 | 271 | |
| B - AVAILABLE | | | | | 790 | 519 |
| C - REQUIRED | 450 | 273 | 165 | 106 | 994 | |
| C - AVAILABLE | | | | | 1410 | 416 |
| | | | | | TOTAL EXCESS | 1282 |

| SURCHARGE | | | |
|---|---|---|---|
| 10+209 | | 14.5 | |
| | 34 | | 493.0 |
| 10+243 | | 14.5 | |
| | 23 | | 332.4 |
| 10+266 | | 14.4 | |
| | 7 | | 100.8 |
| 10+273 | | 14.4 | |

| UNDERCUT UNAVAILABLE FOR FILL | | | | |
|---|---|---|---|---|
| 10+212 | | 36 | | |
| | 18 | | 666 | |
| 10+230 | | 38 | | C = 2180 |
| | 20 | | 700 | |
| 10+250 | | 32 | | |
| | 20 | | 700 | |
| 10+270 | | 38 | | |
| | 3 | | 114 | |
| 10+273 | | 38 | | |

## SUMMARY AND BALANCES

| STATION TO STATION km + m | km + m | TOTAL EXC. EARTH+ROCK m³ | ROCK EXCAVATION m³ | EMBANKMENT m³ | EXCESSES CUT | EXCESSES FILL | ACCUMULATIVE EXCESSES CUT | ACCUMULATIVE EXCESSES FILL |
|---|---|---|---|---|---|---|---|---|
| 10+030 | 10+170 | 392.0 | | 660.0 | | 367 | | 367 |
| 10+170 | 10+310 | | | 6350.4 | | 7303 | | 7670 |
| 10+310 | 10+450 | 6.0 | | 5180.3 | | 5951 | | 13621 |
| 10+450 | 10+533 | 528.1 | | 170.0 | 333 | | | 13288 |
| VT. RTE 118 | TOTAL | 926.1 | | 12360.7 | 333 | 13621 | | 13288 |
| TH #42 | | 257.7 | | 2447.5 | | 2557 | | 15845 |
| OLD VT. RTE 118 | | 842.3 | | | 842 | | | 15003 |
| DRIVEWAYS | | | | 1769.0 | | 2034 | | 17037 |
| DRAINAGE | | 39.9 | | 12.4 | 28 | | | 17009 |
| WETLAND | | 1898.0 | | 1540.0 | 127 | | | 16882 |
| | | 3964.0 | | 18129.6 | 1330 | 18212 | | 16882 |

### REMARKS

| | |
|---|---|
| EARTH AND ROCK EXCAVATION | 3964.0 |
| WETLAND SOIL UNAVAILABLE FOR FILL | 2820.0 |
| SURCHARGE | 926.2 |
| UNDERCUT UNAVAILABLE FOR FILL | 2180.0 |
| TOTAL EXCAVATION | 9877.9 |
| | |
| EMBANKMENT | 18129.6 |
| LESS FACTORED SOLID ROCK | 0.0 |
| LESS DISPLACEMENT OF ANY LARGE STRUCTURES | 0.0 |
| NET EMBANKMENT | 18129.6 |
| FACTOR 0.15 | 2719.4 |
| EMBANKMENT INCLUDING FACTOR | 20849.0 |
| SURCHARGE | 926.2 |
| TOTAL FILL | 21775.2 |
| | |
| MATERIALS AVAILABLE FOR FILLS | |
| EARTH EXCAVATION •(AVAILABLE FOR FILL) | 3964.0 |
| CHANNEL EXCAVATION | 1003.0 |
| UNDERDRAIN EXCAVATION | 0.0 |
| STRUCTURE EXCAVATION | 0.0 |
| | |
| TOTAL MATERIAL AVAILABLE FOR FILL | 4967.0 |
| | |
| TOTAL FILL INCLUDING FACTOR & SURCHARGE | 21775 |
| TOTAL MATERIAL FOR FILL | 4967 |
| BORROW | 16808 |
| EXCESS EXCAVATION (WETLAND SOILS) | 1282 |
| WASTE (SURCHARGE) | 926 |
| (UNDERCUT) | 2180 |
| TOTAL WASTE | 3106 |

NOTE: THE AREAS & VOLUMES SHOWN ON THIS SHEET ARE BASED ON THE 1985 GROUND SURVEY, AND DO NOT REFLECT THE RECENT CHANGES IN THE LOCATION OF THE TROUT RIVER.

PROJECT NAME : BERKSHIRE

PROJECT NO.: BRF-RS 0283(7)

DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: EARTHWK2.I
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 11-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 14 OF 140

78f184/zf184EWK

Metric

# STATE OF VERMONT
# AGENCY OF TRANSPORTATION
# RIGHT OF WAY PLANS
# DETAIL SHEET

## TABLE OF PROJECT PROPERTY ACQUISITION

| PARCEL NO. | GRANTOR | SHEET NO. | BEGINNING STATION | ENDING STATION | TAKING | REM. | RIGHTS | | | TITLE TAKEN | DATE | TOWN OR CITY RECORDED | BK. | PG. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1A | KINNEY, RAYMOND G. & VIRGINIA G. | 14 | 10+030.0 LT. | 10+191.0 LT. | 0.263HA± | | ALL R.T. & I. | | | WD | 03-31-00 | BERKSHIRE | 48 | 343-344 | HWY. EASE.<br>VT. RTE. 118 (0.65A±) |
| | | | 10+030.0 LT. | 10+102.5 LT. | | | CONST. | (T) | 306 SM± | | | | | | 3294 S.F.± |
| | | | 10+050.0 LT. | 10+089.0 LT. | | | SLOPE | (T) | 65 SM± | | | | | | 700 S.F.± |
| | | | 10+112.0 LT. | 10+165.0 LT. | | | CONST. | (T) | 161 SM± | | | | | | 1733 S.F.± |
| | | | 10+124.5 LT. | 10+157.5 LT. | | | SLOPE | (T) | 113 SM± | | | | | | 1216 S.F.± |
| 1B | | 14,15 | 10+060.0 RT. | 10+474.87 RT. | 1.811HA± | | | | | | | | | | 4.47A± |
| | | | 10+030.0 RT. | 10+171± RT. | | | CONST. | (T) | 403 SM± | | | | | | 4338 S.F.± |
| | | | 10+047.0 RT. | 10+083.5 RT. | | | SLOPE | (P) | 65 SM± | | | | | | 700 S.F.± |
| | | | 10+130.0 RT. | 10+164.5 RT. | | | SLOPE | (T) | 18 SM± | | | | | | 194 S.F.± |
| | | | 10+208.0 RT. | 10+261.0 RT. | | | SLOPE | (T) | 179 SM± | | | | | | 1927 S.F.± |
| | | | 10+209.5 RT. | 10+260.0 RT. | | | INSTALL | (T) | 93 SM± | | | | | | SHEET PILING (1000 S.F.±) |
| | | | 10+211± RT. | 10+264.5 RT. | | | CONST. | (T) | 113 SM± | | | | | | 1216 S.F.± |
| | | | 10+275.0 RT. | | | | DRAINAGE | (P) | | | | | | | |
| | | | 10+335.0 RT. | | | | DRAINAGE | (P) | | | | | | | |
| | | | 10+423.0 RT. | | | | DRIVE | (T) | | | | | | | 15.0M (49') GRAVEL |
| | | | 10+437.0 RT. | 10+535.0 RT. | | | CONST. | (T) | 0.028 HA± | | | | | | 0.07A± |
| | | | 10+438.0 RT. | 10+532.0 RT. | | | SLOPE | (P) | 0.035 HA± | | | | | | 0.09A± |
| | | | 10+401.5 RT. | 10+417.0 RT. | | | CONST. | (T) | 98 SM± | | | | | | 1055 S.F.± |
| | | | 10+407.5 RT. | 10+416.5 RT. | | | CUL., DIT. & DR. | (P) | | | | | | | |
| 1C | | 14 | 10+372.0 LT. | 10+540.0 RT. | 0.131HA± | | ALL R.T. & I. | | | | | | | | HWY. EASE.<br>VT. RTE. 118 (0.32A±) |
| 1D | | 14,15 | OLD VT. RTE. 118 30+083.0 CL | 10+376.0 LT. | 0.179HA± | | ALL R.T. & I. | | | | | | | | VT. RTE. 118 (0.44A±) |
| 2 | KOTORMAN, DANIEL F. & HOLLY H. | 14 | OLD VT. RTE. 118 30+103.5 LT. | OLD VT. RTE. 118 30+111.0 LT. | | | CONST. | (T) | 21 SM± | TU | | BERKSHIRE | | | 226 S.F.± |
| | | | OLD VT. RTE. 118 30+107.5 LT. | OLD VT. RTE. 118 30+110.5 LT. | | | REMOVE | (T) | | | | | | | CULVERT |
| 3 | LARIVEE, LARRY G. & MARY L. | 14,15 | RELOC. TH #42 19+876.0 LT. | RELOC. TH #42 19+893.0 LT. | | | CONST. | (T) | 24 SM± | WDOE | 07-19-99 | BERKSHIRE | 47 | 441-442 | 258 S.F.± |
| | | | RELOC. TH #42 19+890.0 LT. | | | | CULVERT | (P) | | | | | | | |
| 4 | NESBITT, DANIEL M. | 15 | 10+376.0 LT. | 10+417.0 LT. | 0.034HA± | | ALL R.T. & I. | | | WDF | 06-10-99 | BERKSHIRE | 47 | 342-343 | HWY. EASE.<br>VT. RTE. 118 (0.08A±) |
| | | | 10+399.5 LT. | 10+418.0 LT. | | | CONST. | (T) | 45 SM± | | | | | | 484 S.F.± |
| | | | 10+407.0 LT. | 10+418.0 LT. | | | SLOPE | (T) | 30 SM± | | | | | | 323 S.F.± |
| | | | 10+417.0 LT. | | | | RESET | (T) | | | | | | | WIRE FENCE LENGTH 8M± (26'±) |
| | | | RELOC. TH #42 20+008.0 LT. | RELOC. TH #42 20+067.0 LT. | | | CONST. | (T) | 194 SM± | | | | | | 2088 S.F.± |
| | | | RELOC. TH #42 20+013.0 LT. | RELOC. TH #42 20+065.5 LT. | | | SLOPE | (T) | 226 SM± | | | | | | 2433 S.F.± |
| | | | RELOC. TH #42 20+008.0 LT. | RELOC. TH #42 20+017.0 LT. | | | RESET | (T) | | | | | | | WIRE FENCE |
| | | | RELOC. TH #42 20+062.5 LT. | RELOC. TH #42 20+075.5 LT. | | | DITCH & CULVERT | (P) | | | | | | | |
| | | | RELOC. TH #42 20+069.0 LT. | | | | DRIVE | (T) | | | | | | | 5.5M (18') GRAVEL |

| REVISION NO. | SHEET | DESCRIPTION OF REVISION | DATE | MADE BY | APPROVED BY |
|---|---|---|---|---|---|
| 1 | 1,7,8 9,12 13,14 15 | PARCEL NO. 1 KINNEY. ADD SUB DIVISION LINES TO PLANS. REDESIGN FIELD DRIVE AT STA. 10+365. ADJUST RIGHTS ACCORDINGLY. PER C.O. 8986. | 12-29-98 | M. J. R. | L. W. B. |
| 2 | 13,15 | PARCEL NO. 6 STANKIEWICZ. REMOVE DOLORES AS CO OWNER. PER C.O. 9033. | 03-16-98 | R. M. W. | L. W. B. |
| 3 | 12,14 15 | PARCEL NO. 1 KINNEY. ADD PARCEL 1D. ALL R.T. & I. IN VT. RTE. 118. STA. OLD VT. RTE. 118 30+083.0 CL ~ 10+376.0 LT.; 0.179HA±; 0.44A± PER C.O. 9075. | 10-08-99 | M. J. R. | L. W. B. |

MAR 11 2003

* 0283007 200 1805

ACCT.prop
/prop/78f184/rf184d.dgn
DATE PLOTTED 8-OCT-1999
/prop/78f184/rf184dl.l

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
C&T (P) CLEARING & TRIMMING
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

APPROVED: LAWRENCE W. BLISS DATE: 04-15-98
AGENT D. PLANS & TITLES

R. O. W. PLANS

BERKSHIRE
BRF RS 0283( 7)

SHEET 15 OF 140

Metric

# STATE OF VERMONT
# AGENCY OF TRANSPORTATION
# RIGHT OF WAY PLANS
# DETAIL SHEET

## TABLE OF PROJECT PROPERTY ACQUISITION

| PARCEL NO. | GRANTOR | SHEET NO. | BEGINNING STATION | ENDING STATION | TAKING | REM. | RIGHTS | | | TITLE TAKEN | DATE | TOWN OR CITY RECORDED | BK. | PG. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5A | RAMSAY, COLIN B. & LUCY B. | 15 | 10+415.0 LT. | 10+494.0 LT. | 0.061 HA± | | ALL R.T.& I. | | | WD | 12-09-99 | BERKSHIRE | 48 | 202-203 | HWY. EASE.<br>VT. RTE. 118 (0.15A±) |
| 5B | | 15 | 10+423.0 LT. | 10+494.5 LT. | 295 SM± | | | | | | | | | | 3175 S.F.± |
| | | | 10+418.0 LT. | 10+479.0 LT. | | | CONST. | (T) | 194 SM± | | | | | | 2088 S.F.± |
| | | | 10+418.0 LT. | 10+479.0 LT. | | | SLOPE | (T) | 258 SM± | | | | | | 2777 S.F.± |
| | | | 10+418.0 LT. | 10+496.0 LT. | | | RESET | (T) | | | | | | | WIRE FENCE |
| | | | 10+420.0 LT. | 10+424.0 LT. | | | CULVERT | (P) | | | | | | | |
| | | | 10+480.0 LT. | | | | DRIVE | (T) | | | | | | | 3.6M (12') GRAVEL |
| | | | 10+483.0 LT. | 10+496.0 LT. | | | CONST. | (T) | 12 SM± | | | | | | 129 S.F.± |
| | | | 10+483.0 LT. | 10+495.5 LT. | | | SLOPE | (T) | 60 SM± | | | | | | 646 S.F.± |
| 6 | STANKIEWICZ, MICHAEL | 15 | 10+494.0 CL | 10+540.0 LT. | 0.035 HA± | | ALL R.T.& I. | | | WDF | 05-24-99 | BERKSHIRE | 47 | 307 | HWY. EASE.<br>VT. RTE. 118 (0.09A±) |
| | | | 10+494.0 LT. | 10+534.0 LT. | | | RESET | (T) | | | | | | | WIRE FENCE |
| | | | 10+494.0 LT. | 10+532.5 LT. | | | SLOPE | (T) | 343 SM± | | | | | | 3692 S.F.± |
| | | | 10+496.0 LT. | 10+534.0 LT. | | | CONST. | (T) | 68 SM± | | | | | | 732 S.F.± |
| 7 | TOWN OF BERKSHIRE | 14 | RELOC. TH #42<br>19+867.0 CL. | RELOC. TH #42<br>19+883.5 LT. | | | APPROACH | (T) | | | | | | | TH #42 |
| | RELINQUISHMENT AREA NO. I | | OLD VT. RTE. 118<br>30+083.0 CL. | RELOC. TH #42<br>20+079.5 LT. | | | 0.363 HA± | | | | | | | | OLD VT. RTE. 118<br>(0.90A±) |
| | MAINTENANCE AGREEMENT AREA NO. 1 | | RELOC. TH #42<br>20+078.0 CL. | RELOC. TH #42<br>20+089.4 CL. | | | 226 SM± | | | AGREE | | BERKSHIRE | | | (2433 S.F.±)<br>FORMERLY VT. RTE. 118 |
| 8 | CITIZENS UTILITIES | | | | | | | | | | | | | | UTILITY |
| 9 | BELL ATLANTIC - NEW ENGLAND | | | | | | | | | | | | | | UTILITY |
| 10 | NORTH COUNTRY CABLE VISION | | | | | | | | | | | | | | UTILITY |

| REVISION NO. | SHEET | DESCRIPTION OF REVISION | DATE | MADE BY | APPROVED BY |
|---|---|---|---|---|---|
| | | | | | |

MAR 11 2000

0283007 200 1805

ACCT.prop
/prop/78f184/rf184d.dgn
DATE PLOTTED 15-MAR-1999
/prop/78f184/rf184d2.i

DR.(P)- DRAINAGE RIGHT
DIT.(P)- DITCHING RIGHT
CH.(P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL.(P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
PERMANENT EASEMENT
TEMPORARY EASEMENT

LEGEND
C&T (P) — CLEARING & TRIMMING
CZ (P) — CLEAR ZONE
CONST.(T) — CONSTRUCTION EASEMENT
SR SR — SLOPE RIGHTS
PROPERTY LINE
TOP OF CUT
TOE OF SLOPE

APPROVED: LAWRENCE W. BLISS DATE: 04-15-98
AGENT D, PLANS & TITLES

R. O. W. PLANS

BERKSHIRE
BRF RS 0283(7)

SHEET 16 OF 140

VAOT Metric

N

1985

MAG

| RELOCATED T.H. #42 CURVE DATA CURVE 1 |
|---|
| Δ=90° 43'42.5" LT |
| R=15.00 m |
| T=15.19 |
| L=23.75 |
| E=6.35 |
| $e_{MAX}$=EXISTING X-SLOPE |
| ENTRANCE TANGENT S 21°17'32.5" E |
| EXIT TANGENT N 67°58'45.0" E |

BEGIN RELINQUISHMENT NO. I

OLD VT. RTE. 118

STA. 30+083.0 ℄

BEGIN R.O.W. PROJECT

BRF RS 0283(7) STA. 10+030.0 ℄

APPROXIMATE AERIAL RELOCATION
ROUTE BY CITIZENS UTILITIES, NYNEX, AND NORTH COUNTRY CABLE

STA. 19+910.0
END REMOVAL OF EXISTING PAVEMENT SAWCUT SUBSIDIARY TO EXCAVATION OF SURFACES AND PAVEMENTS. MATCH EXISTING PAVEMENT

STA. 19+890.0 LT TO STA. 19+890.0 RT
450mm x 18.6m OPTION PIPE CAAP (1.6)/PCCSP (1.7)/CPEP W/ REINF. CONC. DI, W/ GRATE TYPE 'B' FOR DITCH AT INLET, 450mm END SECTION AND 2.4m x 3.0m x 0.6m STONE FILL TYPE II PAD AT OUTLET

RELOCATED T.H. #42 STA 19+885.391= OLD VT RTE 118 30+123.593

STA 19+867.000
BEGIN APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT

STA. 19+867.0 TO STA. 19+910.0
REMOVE PAVEMENT SURFACES. GRADE GRAVEL SURFACE TO MEET PAVEMENT.

KOTORMAN, DANIEL F. & HOLLY H.

STA. 19+880.0 LT TO STA. 19+876.0 RT
REMOVE EXISTING 305mm CGMP

STA. 30+099 RT TO STA. 30+113 RT
RETAIN EXISTING STEEL BEAM GUARD RAIL. PLACE TERMINAL END SECTION AND ANCHOR FOR STEEL BEAM RAIL AT STA 30+099, RT.

STA. 30+099 LT TO STA. 30+106 LT
RETAIN EXISTING STEEL BEAM GUARD RAIL. PLACE TERMINAL END SECTION AND ANCHOR FOR STEEL BEAM RAIL AT STA 30+099, LT.

10+180.0
67.5M (221.5') RT.

STA 30+099± TO STA 30+115±
REMOVE EXISTING PAVEMENT. GRADE GRAVEL FOR PARKING ACCESS FOR FISHERMAN. TOPSOIL AND SEED GRAVEL AREA ADJACENT TO PAVEMENT REMOVAL.

STA 30+067± TO STA 30+099±
REMOVE EXISTING BRIDGE SUPERSTRUCTURE. PIER TO BE CUT OFF AT 0.3m ABOVE STREAM BED.

STA. 30+050 LT TO STA. 30+067 LT
REMOVE AND DISPOSE GUARD RAIL

STA. 30+041RT TO STA. 30+067 RT
REMOVE AND DISPOSE GUARD RAIL

STA. 10+117 LT TO STA. 30+063 RT
REMOVE EXISTING FENCE

STA. 10+152.7, LT TO STA. 10+160.3 LT
GUARD RAIL APPROACH SECTION TYPE I(MOD.)

STA 30+002 ± TO STA 30+067 ±
REMOVE EXISTING PAVEMENT & WESTERN APPROACH EMBANKMENT. TOPSOIL AND SEED.

STA. 10+139.5, LT TO STA. 10+162.4, LT
TREATED TIMBER CURB

STA. 10+140, LT 300mm x 3.7m OPTION PIPE
CSP (1.7)/CAAP (1.6)/ CPEP
PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

STA. 10+120.0 TO STA. 10+160.0
STONE FILL TYPE II FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE

STA. 10+087.9, LT TO STA. 10+152.7, LT
STEEL BEAM GUARD RAIL

STA 10+092.780
BEGIN PROJECT BRF-RS 0283(7)
END APPROACH CONSTRUCTION

10+030.0
7.62M (25') LT.

STA. 10+076.5, LT TO STA. 10+087.9, LT
MODIFIED ECCENTRIC LOADER TERMINAL

STA. 10+030.0 TO STA. 10+046.0
COLD PLANE

STA 10+030.000
BEGIN APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT

50:1 TAPER

APPROX. EXIST. R.O.W.

VERMONT ROUTE 118

TO EAST BERKSHIRE

APPROX. EXIST. R.O.W.

153C ☼25 GUY

POLE 153C/25
9+021.5, 9.5m RT.

DRIVE

POLE 153C/26
9+082, 12.5m RT.

STA. 10+043, RT. & LT.
CLEAN EXISTING
1.5m x 0.9m PIPES (3)

50:1 TAPER

POLE 153C/27
10+042.2, 15.5m RT.

STA. 10+076.5, RT TO STA. 10+087.9, RT
MODIFIED ECCENTRIC LOADER TERMINAL

APPROXIMATE AERIAL RELOCATION
ROUTE BY CITIZENS UTILITIES, NYNEX, AND NORTH COUNTRY CABLE

10+030.0
7.62M (25') RT.

KINNEY, RAYMOND G. & VIRGINIA G.

KINNEY, RAYMOND G. & VIRGINIA G.

STA. 10+120, RT 300mm x 4.3m OPTION PIPE
CSP (1.7)/CAAP (1.6 )/CPEP
PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

VT RTE 118 STA 10+130.139= OLD VT RTE 118 STA 30+000.000

STA. 10+120.0 TO STA. 10+167.5
STONE FILL, TYPE IV FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE EXTENDING FROM STA. 10+020.0 TO STA. 10+160.0

STA. 10+120.5, RT TO STA. 10+162.4, RT
TREATED TIMBER CURB

STA. 10+120, RT TO STA. 10+165, RT
INSTALL TEMPORARY SHEET PILING

STA. 10+152.7, RT TO STA. 10+160.3, RT
GUARD RAIL APPROACH SECTION TYPE I(MOD.)

10+060.0
7.62M (25') RT.

STA. 10+087.9, RT TO STA. 10+152.7, RT
STEEL BEAM GUARD RAIL

POLE 153C/28
10+102.5, 18.5m RT.

10+120.0
15.24M (50') RT.

STA. 10+163.300
STOP ROADWAY
BEGIN BRIDGE
ELEV. 129.417

POLE 153C/29
10+162.5, 21.3m RT.

VT ROUTE 118 STA 10+189.703=
TROUT RIVER BASELINE
STA 1+030.002

STA. 10+208.800
END BRIDGE
RESUME ROADWAY
ELEV. 130.191

STA. 10+211.1, LT TO STA. 10+218.7, LT
GUARD RAIL APPROACH SECTION TYPE I(MOD.)

STA. 10+209.0, LT TO STA. 10+258.0, LT
TREATED TIMBER CURB

STA. 10+220, LT 300mm x 5.5m OPTION PIPE
CSP (1.7)/CAAP (1.6)/ CPEP
WITH PIPE ELBOWS (2-28°), PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

STA. 10+211.1, RT. TO STA. 10+218.7 RT
GUARD RAIL APPROACH SECTION TYPE I(MOD.)

STA. 10+220, RT 300mm x 3.4m OPTION PIPE
CSP (1.7)/CAAP (1.6)/ CPEP
PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE. 0.6m W/O GRUBBING MATERIAL DOWN SIDESLOPE AT PIPE OUTLET.

LARIVEE, LARRY G. & MARY L.

3 NEW POLE TH 42 19+913.4, 35m LT.

7

LEDGE

STA 19+900 CONST. LEDGE (T)

CUL. (P)

WATERLINE (APPROX.)

APPROACH DRIVE

STA 19+890.79

(252.0M) [826.8']

P

L

19+900

12m

KINNEY, RAYMOND G. & VIRGINIA G.

REMOVE (T) STORY HOUSE PORCH

PC STA 19+867.045

RELOCATED T.H. #42 CURVE #1 WATERLINE (APPROX.)

STA 19+882.237

2

STA 19+894.6M

WETLAND BOUNDARY

1D

STA 19+921.6M

(221.6M) [727.1']

STA 30+117
REMOVE EXISTING DRIVE

STA 30+108.00
PLANK GUARDRAIL BARRICADE
10+191.0
56.5M (185') LT.

BM#2
CONC. POST
ELEV. 129.226

WETLAND BUFFER

STA. 10+214.5 TO STA. 10+340.0
STONE FILL, TYPE II FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE

300 MM ELM ☼ CONST. (T)

KINNEY, RAYMOND G. & VIRGINIA G.

ELM (SAVE)

*094 1 2

CLUMP MAPLES

STA. 10+209.0 LT TO STA. 10+311.9, LT
TREATED TIMBER CURB

WATER CONTROL STRUCTURE
STONE FILL, TYPE I AND GEOTEXTILE

(SAVE)610mm DIA. MAPLE

(REMOVE) 610mm DIA MAPLE (CLUMP) OF TREES)

2-205mm ASH (SAVE)

WETLAND BOUNDARY

1A

1B

TROUT RIVER BASELINE

OLD ROAD

N°34.27'E

N°7.37'32.1"W

89°59'56.9"

610mm DIA. MAPLE
150mm DIA. MAPLE
305mm DIA. MAPLE

610mm DIA. MAPLE
150mm DIA. MAPLE

WETLAND BOUNDARY

INSTALL T/T

INSTALL (T)

(PARCEL #4) 115.5 (A)

STA. 10+209.5, RT TO STA 10+260, RT
INSTALL TEMPORARY SHEET PILING

POLE 153C/31
10+243, 25.5m RT.

TROUT RIVER

STA. 10+209 TO STA. 10+273
PLACE SURCHARGE
SEE TRAFFIC CONTROL PLAN, PHASE 1

STA. 10+218.7, RT TO STA. 10+401.6, RT
STEEL BEAM GUARD RAIL

STA. 10+209.0, RT TO STA. 10+401.6, RT
TREATED TIMBER CURB

STA. 10+204.5 TO STA. 10+260.0
STONE FILL, TYPE IV FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE EXTENDING FROM STA. 10+214.5 TO STA. 10+260.0

STA. 10+218.7, LT TO
REL. T.H. #42 STA. 20+051.5, RT
STEEL BEAM GUARD RAIL

KINNEY, RAYMOND G. & VIRGINI

MATCHLINE STA 10+250

(177.64M) [582.9']

61.0M (200.1')

| CENTERLINE TIES |
|---|
| VERMONT ROUTE 118 |
| P.K. NAIL IN PAVEMENT P.O.T. 10+000.000 |

10+000

4.807m, 3.752m, 4.593m

CONC. NAILS 305mm FROM EDGE OF PAVEMENT

| DATUM | |
|---|---|
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 10 20 3
SCALE 1:500

FOR ROW USE ONLY

PLAN

PROJECT: BERKSHIRE

PROJECT NO.: BRF-RS 0283(7)

DESIGN FILE NAME: /prop/78f184/rf184zzz.dgn
IPARM FILE NAME: rf184llr.i
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 8-OCT-1999
SURVEY DATE:
DRAWN BY: C. MABY

R. O. W. SHEET 17 OF 140 SHEETS

| VT RTE 118 CURVE DATA CURVE 1 | RELOCATED T.H. #42 CURVE DATA CURVE 2 | RELOCATED T.H. #42 CURVE DATA CURVE 3 | RELOCATED T.H. #42 CURVE DATA CURVE 4 | FIELD DRIVE CURVE DATA CURVE 5 |
|---|---|---|---|---|
| Δ=43°12'36.1" RT<br>R=235.00 m<br>T=93.07<br>L=177.22<br>E=17.76<br>$e_{MAX}$=0.0800<br><br>ENTRANCE TANGENT<br>N 82°22'24.8" E<br><br>EXIT TANGENT<br>S 54°24'59.1" E | Δ=34°19'01.6" RT<br>R=75.00 m<br>T=23.16<br>L=44.92<br>E=3.49<br>$e_{MAX}$=EXISTING X-SLOPE<br><br>ENTRANCE TANGENT<br>S 67° 58'45.0" E<br><br>EXIT TANGENT<br>S 77°42'13.3" E | Δ=23°07'35.4" RT<br>R=100.00 m<br>T=20.46<br>L=40.36<br>E=2.07<br>$e_{MAX}$=EXISTING X-SLOPE<br><br>ENTRANCE TANGENT<br>S 77° 42'13.3" E<br><br>EXIT TANGENT<br>S 54°34'37.9" E | Δ=63°33'05.0" RT<br>R=30.00 m<br>T=18.58<br>L=33.28<br>E=5.29<br>$e_{MAX}$=0.0322<br><br>ENTRANCE TANGENT<br>S 54°34'12.3" E<br><br>EXIT TANGENT<br>S 08°58'52.7" W | Δ=66°21'00.0" RT<br>R=24.00 m<br>T=15.69<br>L=27.79<br>E=4.67<br>$e_{MAX}$=0.0200<br><br>ENTRANCE TANGENT<br>N 30°23'12.2" E<br><br>EXIT TANGENT<br>S 83°15'47.8" E |

| FIELD DRIVE CURVE DATA CURVE 6 | FIELD DRIVE CURVE DATA CURVE 7 |
|---|---|
| Δ=14°11'26.9" RT<br>R=220.00 m<br>T=27.38<br>L=54.49<br>E=1.70<br>$e_{MAX}$=0.0200<br><br>ENTRANCE TANGENT<br>S 83°15'47.8" E<br><br>EXIT TANGENT<br>S 69°04'20.9" W | Δ=88°59'41.1" RT<br>R=8.00 m<br>T=7.86<br>L=12.43<br>E=3.21<br>$e_{MAX}$=0.0482<br><br>ENTRANCE TANGENT<br>S 69°04'20.9" E<br><br>EXIT TANGENT<br>N 21°55'58.0" E |

LARIVEE, LARRY G. & MARY L.

(3)

STA 19+974.0 EXIST. 305 MM CULVERT DO NOT DISTURB

RELOCATED T.H. #42 CURVE #3

RELOCATED T.H. #42 CURVE #2

LEDGE

Sta 19+928.46 PI

Sta 19+950.225 PCC

Sta 19+970.690 PI

[826.8'] [252.0M]

APPROXIMATE AERIAL RELOCATION ROUTE BY CITIZENS UTILITIES, NYNEX, AND NORTH COUNTRY CABLE

BM#1 914 mm MAPLE ELEV. 129.226

Sta 19+990.593 PT

914 mm MAPLE

STA. 20+000 MATCH EXISTING PAVEMENT

STA. 20+000.0 TO STA. 20+008.0 COLD PLANE

RESET (T)

STA. 20+040.0, RT TO STA. 20+051.5, RT MODIFIED ECCENTRIC LOADER TERMINAL

NESBITT, DANIEL M.

10+379.0 28.0M (92') LT.

RELOCATED T.H. #42 CURVE #4

CUL. & DITCH (P)

STA 20+070 LT REMOVE 380MM CGMP

STA. 20+062.5 LT TO STA. 20+075.5 LT 450mm x 17.5m OPTION PIPE CAAP (1.6)/PCCSP (1.7)/CPEP W/450mm END SECTION AT EACH END

VT RTE 118 P.O.C. STA 10+365.760= RELOCATED TH 42 P.O.T. STA 20+096.923

10+418.0 14.0M (46') LT.

RAMSAY, COLIN B. & LUCY B.

STA. 10+375, LT TO STA. 10+400, LT REMOVE EXISTING PAVEMENT TOPSOIL AND SEED

STA 10+423, LT TO STA 10+410, RT REMOVE EXISTING 610mm RCP 750mm x 45.5m OPTION PIPE CAAP (2.0)/ PCCSP (2.1)/ CPEP WITH CEMENT RUBBLE MASONRY STRAIGHT HEADWALL AT INLET, 750mm END SECTION AND 2.3m x 3.0m x 0.6m STONE FILL TYPE II AT OUTLET

10+423.0 7.62M (25') LT.

CUL. (P) VT RTE 118 P.O.C. STA 10+423.000= FIELD DRIVE STA 40+126.707

STA. 10+417, LT TO STA. 10+533, LT REMOVE EXISTING FENCE

VT RTE 118 CURVE #1

STA 10+480 LT REMOVE 380MM CGMP

STANKIEWICZ, MICHAEL

STA. 10+474.4 LT TO STA. 10+486.3 LT 450mm x 11.6m OPTION PIPE CAAP (1.6)/PCCSP (1.6)/PCCSP (1.7)/CPEP W/450mm END SECTION AT EACH END

10+494.5 12.62M (41') LT.

STA. 10+490.25 END PROJECT BRF-RS 0283(7) BEGIN APPROACH CONSTRUCTION

REMOVE & RESET (T)

STA. 10+517.0 TO STA. 533.4 COLD PLANE

10+494.0 7.62M (25') LT.

STA. 10+533.400 END APPROACH CONSTRUCTION MATCH EXISTING PAVEMENT

10+540.0 7.62M (25') LT.

END RELINQUISHMENT NO. I

RELOC. TH #42 STA. 20+079.5 13.0M (43') LT. = STA. 10+376.0 21.0M (69') LT.

| DRIVEWAY TABLE | | | |
|---|---|---|---|
| DRIVEWAY LOCATION | RADIUS | WIDTH | REMARKS |
| T.H. #42 20+069, LT. | 6m | 5.5m | GRAVEL |
| VT RTE 118 10+423, RT. | 3.6m LT., 2.5m RT. | 15.0m | GRAVEL |
| VT RTE 118 10+480, LT. | 3m | 3.6m | GRAVEL |

BEGIN MAINTENANCE AGREE. AREA NO. 1 RELOCATED TH #42 STA. 20+078 ℄

END MAINTENANCE AGREE. AREA NO. 1 RELOCATED TH #42 STA. 20+089.4 ℄ [LENGTH 11.4M (37')]

STA. 10+260, LT 300mm x 4.6m OPTION PIPE CSP (1.7)/CAAP (1.6)/ CPEP WITH PIPE ELBOWS (2-28°), PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

STA. 10+215.0 TO STA. 10+340.0 STONE FILL, TYPE II FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE

STA. 10+209.0, LT TO 10+311.9, LT TREATED TIMBER CURB

KINNEY, RAYMOND G. & VIRGINIA G.

STA. 10+218.7, LT TO REL. T.H. #42 STA. 20+051.5, RT STEEL BEAM GUARD RAIL

WETLAND BUFFER

WETLAND BOUNDARY

INSTALL EXIST. R.O.W.

150 mm ELM

10+372.0 14.0M (46') LT.

NEW POLE 10+341, 26.0m LT.

Sta 10+297.639 PC

Sta 20+089.422 PT

Sta 20+056.147 PC

Sta 20+105.621 PT

R=16.2 m

R=40.5 m

R=6 m

R=35 m

R=22.8 m

R=3.6m

R=2.5m

CONST. (T)

DRIVE (T)

DRIVE

SR (T)

RJ

CZ

105.2M

Sta 10+390.706 BK

Sta 10+381.799 AHD

Sta 20+074.730 PI

Sta 20+070.839 AHD

R=706.6m

47°26'45" RT

10+380 10+400 10+420 10+440 10+460 10+480 10+500 10+520 10+540

MATCHLINE STA 10+250

1B 1C 1D 5A 5B 6 7

(PARCEL #4) (15.5 A)

POLE 153C/32 10+326, 27.5m RT.

10+297.6

15.24M (50') RT.

INSTALL (T)

DR (P)

[177.64M (582.8')]

STA. 10+280 RT TO STA. 10+280 LT 750mm x 28.0m OPTION PIPE CAAP (2.0)/PCCSP (2.1)/ CPEP 750 END SECTION AT EACH END AND 2.3m x 3.0m x 0.6m STONE FILL TYPE II AT OUTLET

STA. 10+260.0 TO STA. 10+350.0 STONE FILL, TYPE II FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE

STA. 10+218.7, RT TO STA. 10+401.6, RT STEEL BEAM GUARD RAIL

STA. 10+275, RT 300mm x 5.2m OPTION PIPE CSP (1.7)/CAAP (1.6)/ CPEP WITH PIPE ELBOWS (2-28°), PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

STA. 10+209.0, RT TO STA. 10+401.6, RT TREATED TIMBER CURB

STA. 10+205.0 TO STA. 10+260.0 STONE FILL, TYPE IV FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE

STA. 10+209.5, RT TO STA 10+260, RT INSTALL TEMPORARY SHEET PILING

STA. 10+209 TO STA. 10+273 PLACE SURCHARGE SEE TRAFFIC CONTROL PLAN, PHASE I

KINNEY, RAYMOND G. & VIRGINIA G. (PARCEL #3) (10.3 A)

WETLAND BUFFER

APPROXIMATE AERIAL RELOCATION ROUTE BY CITIZENS UTILITIES, NYNEX, AND NORTH COUNTRY CABLE

STA. 10+335, RT 300mm x 3.0m OPTION PIPE CSP (1.7)/CAAP (1.6)/ CPEP WITH PIPE ELBOWS (2-28°), PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

FIELD DRIVE CURVE #5

FIELD DRIVE CURVE #6

FIELD DRIVE CURVE #7

POLE 153C/33 10+409.5, 8.3m RT.

CUL., DIT. & DR. (P)

10+337 15.24M (50') RT.

10+416.0 7.0M (23') LT.

10+439 11.24M (36.9') RT.

10+474.87 8M (26.2') RT.

STA. 10+401.6, RT TO STA. 10+413.0, RT MODIFIED ECCENTRIC LOADER TERMINAL

STA. 10+432.0, RT TO STA. 10+443.4, RT MODIFIED ECCENTRIC LOADER TERMINAL

STA. 10+443.4, RT TO STA. 10+515.8, RT STEEL BEAM GUARD RAIL

STA. 10+515.8, RT TO STA. 10+527.2, RT MODIFIED ECCENTRIC LOADER TERMINAL

KINNEY, RAYMOND G. & VIRGINIA G.

APPROXIMATE AERIAL RELOCATION ROUTE BY CITIZENS UTILITIES, NYNEX, AND NORTH COUNTRY CABLE

10+540.0 7.62M (25') LT.

POLE 153C/34 10+503.5, 12.7m RT.

10+494.0 ℄ 50:1 TAPER

MM 1180 0602 40040

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

APPROX. EXIST. R.O.W.

VERMONT ROUTE 118

MONTGOMERY

DRIVE

300 mm ELM

END R.O.W. PROJECT

BRF RS 0283(7)

STA. 10+540.0 ℄

MAR 11 '03

153C 35

0 10 20 30

SCALE 1:500

FOR ROW USE ONLY

| CENTERLINE TIES | | | | | |
|---|---|---|---|---|---|
| VERMONT ROUTE 118 | | RELOCATED T.H. # 42 | | | |
| P.K. NAIL IN PAVEMENT PI 10+390.706 BK= PI 10+381.799 AHD. | P.K. NAIL IN PAVEMENT PT 10+474.866 | P.K. NAIL IN PAVEMENT P.O.T. 20+000.000 | P.K. NAIL IN PAVEMENT PC 20+056.147 | P.K. NAIL IN PAVEMENT P. 20+074.730 BK= PI 20+070.839 AHD | PT 20+089.422 P.O.T. 20+096.923 |
| CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT |
| 5.752m 2.286m 3.627m 10+380 10+390 | 4.529m 3.405m 4.529m 10+470 10+480 | 4.410m 3.408m 4.560m 20+000 20+010 | 4.432m 3.594m 4.566m 20+050 20+065 | 4.724m 3.825m 4.980m 20+070 20+075 | 14.98m 2.48m 16.590m 22.576m 3.27m 20.656m |

| DATUM | |
|---|---|
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

PLAN

PROJECT: BERKSHIRE

PROJECT NO.: BRF-RS 0283(7)

DESIGN FILE NAME: /prop/78f184/rf184zzz.dgn

IPARM FILE NAME: rf1841zr.i

SURVEYED BY:

SQUAD LEADER:

PLOT DATE: 8-OCT-1999

SURVEY DATE:

DRAWN BY: C. MABY

R. O. W. SHEET 18 OF 140 SHEETS

N

MAG 1985

RELOCATED T.H. #42
CURVE DATA CURVE 1

Δ=90° 43'42.5" LT
R=15.00 m
T=15.19
L=23.75
E=6.35
$e_{MAX}$=EXISTING X-SLOPE

ENTRANCE TANGENT
S 21°17'32.5" E

EXIT TANGENT
N 67°58'45.0" E

APPROXIMATE AERIAL RELOCATION
ROUTE BY CITIZENS UTILITIES, BELL ATLANTIC-NEW ENGLAND, AND NORTH COUNTRY CABLE

STA. 19+910.0
END REMOVAL OF EXISTING PAVEMENT
SAWCUT SUBSIDIARY TO EXCAVATION OF SURFACES AND PAVEMENTS.
MATCH EXISTING PAVEMENT

STA. 19+888.0 LT TO STA. 19+890.0 RT
450mm x ~~19.1m OPTION PIPE~~ 18.3m CSP
W/ REINF. CONC. DI. W/ GRATE TYPE 'B' FOR DITCH AT INLET,
450mm END SECTION AND 2.4m x 3.0m x 0.6m
STONE FILL TYPE II PAD AT OUTLET

RELOCATED T.H. #42 STA 19+885.39=
OLD VT RTE 118 30+123.593

STA 19+867.000
BEGIN APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT

STA. 19+867.0 TO STA. 19+910.0
REMOVE PAVEMENT SURFACES. GRADE GRAVEL SURFACE TO MEET PAVEMENT.

STA. 14+866.2 RT 19+870.8
GUARD RAIL APPROACH END
(3.8m, 5m RADIUS, STD. G-1d)
ANCHOR FOR STEEL BEAM RAIL

STA. 19+880.0 LT TO STA. 19+876.0 RT
REMOVE EXISTING 305mm CGMP

STA. 30+099 RT TO STA. 30+113 RT
RETAIN EXISTING STEEL BEAM GUARD RAIL.
PLACE TERMINAL END SECTION AND ANCHOR FOR STEEL BEAM RAIL AT STA 30+099, RT.

STA. 30+099 LT TO STA. 30+106 LT
RETAIN EXISTING STEEL BEAM GUARD RAIL.
PLACE TERMINAL END SECTION AND ANCHOR FOR STEEL BEAM RAIL AT STA 30+099, LT.

867.0 890.0
STA. 19+866.2, RT TO STA. 19+885.8, RT
STEEL BEAM GUARD RAIL

STA. 30+105 LT
BACKFILL EXISTING DITCH, SEE SHEET 79.

RELOCATED T.H. #42
CURVE #1

STA 30+099± TO STA 30+115±
REMOVE EXISTING PAVEMENT. GRADE GRAVEL FOR PARKING ACCESS FOR FISHERMEN. TOPSOIL AND SEED GRAVEL AREA ADJACENT TO PAVEMENT REMOVAL.

STA 30+067± TO STA 30+099±
REMOVE EXISTING BRIDGE SUPERSTRUCTURE. PIER TO BE CUT OFF AT 0.3m ABOVE STREAM BED.

STA. 30+050 LT TO STA. 30+067 LT
REMOVE AND DISPOSE GUARD RAIL

STA. 30+041 RT TO STA. 30+067 RT
REMOVE AND DISPOSE GUARD RAIL

STA. 10+117 LT TO STA. 30+063 RT
REMOVE EXISTING FENCE

10+153 ~~STA. 10+152.7~~, LT TO STA. 10+160.3 LT 160.6
GUARD RAIL APPROACH SECTION NETC 2 RAIL

STA 30+002 ± TO STA 30+067 ±
REMOVE EXISTING PAVEMENT & WESTERN APPROACH EMBANKMENT. TOPSOIL AND SEED.

10+137.8 STA. 10+~~139.5~~, LT TO STA. 10+162.4, LT 163.5
TREATED TIMBER CURB

STA. 10+140, LT 300mm x ~~3.7m OPTION PIPE~~ 6.1 CSP
PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

STA. 10+120.0 TO STA. 10+160.0
STONE FILL TYPE II FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE

10+126.3 STA. 10+~~087.9~~, LT TO STA. 10+~~152.7~~, LT 153
STEEL BEAM GUARD RAIL

STA 10+092.780
BEGIN PROJECT BRF-RS 0283(7)
END APPROACH CONSTRUCTION

10+114.9 10+126.3
STA. 10+~~076.5~~, LT TO STA. 10+087.9, LT
MANUFACTURED TERMINAL SECTION

STA. 10+030.0 TO STA. 10+046.0
COLD PLANE

STA 10+030.000
BEGIN APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT

50:1 TAPER

APPROX. EXIST. R.O.W.
VERMONT ROUTE 118
TO EAST BERKSHIRE
APPROX. EXIST. R.O.W.
DRIVE
GUY
153C
POLE 153C/25
9+021.5, 9.5m RT.

POLE 153C/26
9+082, 12.5m RT.

POLE 153C/27
10+042.2, 15.5m RT.

10+167.3 10+118.7
STA. 10+~~076.5~~, RT TO STA. 10+087.9, RT
MANUFACTURED TERMINAL SECTION

STA. 10+043, RT. & LT.
CLEAN EXISTING
1.5m x 0.9m PIPES (3)

APPROXIMATE AERIAL RELOCATION
ROUTE BY CITIZENS UTILITIES, BELL ATLANTIC-NEW ENGLAND, AND NORTH COUNTRY CABLE

118.7 153
STA. 10+~~087.9~~, RT TO STA. 10+~~152.7~~, RT
STEEL BEAM GUARD RAIL

POLE 153C/28
10+102.5, 18.5m RT.

STA. 10+120, RT 300mm x ~~4.3m OPTION PIPE~~ 5.5 CSP
PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET

VT RTE 118 STA 10+130.139=
OLD VT RTE 118 STA 30+000.000

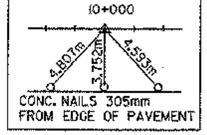
STA. 10+120.0 TO STA. 10+167.5
STONE FILL, TYPE IV FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE EXTENDING FROM STA. 10+020.0 TO STA. 10+160.0

10+118.7 STA. 10+~~120.5~~, RT TO STA. 10+~~162.4~~, RT 163.5
TREATED TIMBER CURB

STA. 10+120, RT TO STA. 10+165, RT
INSTALL PERMANENT SHEET PILING

153
STA. 10+~~152.7~~, RT TO STA. 10+~~160.3~~, RT 10+160.6
GUARD RAIL APPROACH SECTION NETC 2 RAIL

CENTERLINE TIES
VERMONT ROUTE 118
P.K. NAIL IN PAVEMENT
P.O.T. 10+000.000




CONC. NAILS 305mm FROM EDGE OF PAVEMENT

NOTE: SHEETS 20 & 21 HAVE BEEN REVISED TO REFLECT THE FACT THAT THE TROUT RIVER HAS MEANDERED. THE STREAMBANK IN THE AREA OF THE EASTERLY ABUTMENT HAS CHANGED. THE ONLY OTHER SHEETS REFLECTING THIS CHANGE ARE THE SECTIONS.

| TRAVERSE #10 | TRAVERSE #11 |
|---|---|
| N. 1741.503 | N. 1800.998 |
| E. 1015.020 | E. 1046.047 |
| ELEV. 127.883 | ELEV. 128.483 |

1st Post — 2nd Post — 3rd Post
27.610 — 29.695
IRON ROD w/DRILL HOLE — TIES TO TOP CENTER OF CONC. POSTS
1½ ST WF No. — TIES ON CORNER BOARDS — 1/4 DIA — IRON ROD w/DRILL HOLE

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

T.H. #42

NEW POLE
TH 42
19+913.4, 35m LT.

Sta 19+890.797
PI
LEDGE
LEDGE
19+900
19+880
19+860
19+867.045 STORY HOUSE
DRIVE
PC
Sta 19+882.237
PI
RELOCATED T.H. #42 CURVE #1
STA 30+117
REMOVE EXISTING DRIVE
STA 30+~~108.00~~
PLANK GUARDRAIL BARRICADE
WETLAND BUFFER
WETLAND BOUNDARY
BM#3 Ons.Ø
BRIDGE ABUT
ELEV. 128.358
886.2
STA. 19+~~885.8~~ RT
GUARD RAIL APPROACH END
(3.8m, 5m RADIUS, STD. G-1d)
ANCHOR FOR STEEL BEAM RAIL
2 TROUT RIVER
BM#2
CONC. POST
ELEV. 129.226
300 MM ELM
N 34° 27' 11" E
30.080
STA.10+214.5 TO STA. 10+340.0
STONE FILL, TYPE II FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE
(SAVE) ELM
208.7
STA. 10+~~209.0~~ LT
TO STA. 10+~~311.9~~, LT 260.9
TREATED TIMBER CURB
WATER CONTROL STRUCTURE (STONE FILL, TYPE II AND GEOTEXTILE
WETLAND BOUNDARY
CLUMP MAPLES
TRAV #10
TROUT RIVER BASELINE
OLD ROAD
(SAVE) 610mm DIA. MAPLE
(REMOVE) 610mm DIA. MAPLE (CLUMP OF TREES) 2-205mm AND
610mm DIA. MAPLE
610mm DIA. MAPLE
305mm DIA. MAPLE
610mm DIA. MAPLE
150mm DIA. MAPLE
MATCHLINE STA 10+250
89° 59' 56.9"
N 82° 22' 24.8" E
10+340
10+320
10+300
10+280
10+260
10+240
10+220
10+200
10+180
10+160
10+140
10+120
10+100
10+080
10+060
10+040
10+020
10+000
+092.78
+057.0
1.5 m
3.3m
CZ
28
26
STA 10+163.300
STOP ROADWAY
BEGIN BRIDGE
ELEV. 129.417
POLE 153C/29
10+162.5, 21.3m RT.
VT ROUTE 118 STA 10+189.703=
TROUT RIVER BASELINE
STA 1+030.002
STA 10+208.700
END BRIDGE
RESUME ROADWAY
ELEV. 130.191
PROPOSED NEW CHANNEL
10+211.4 STA. 10+~~211.4~~, LT TO STA. 10+~~218.7~~, LT 219.0
GUARD RAIL APPROACH SECTION NETC 2 RAIL
STA. 10+209.0, LT TO STA. 10+258.0, LT
TREATED TIMBER CURB
STA. 10+220, LT 300mm x ~~5.5m OPTION PIPE~~ 4.3 CSP
~~WITH PIPE ELBOWS (2-28°)~~, PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE, AND 0.6m x 1.2m x 0.6m STONE FILL TYPE II PAD AT OUTLET
10+211.4 STA. 10+~~211.4~~, RT. TO STA. 10+~~218.7~~ RT 10+219.0
GUARD RAIL APPROACH SECTION NETC 2 RAIL
STA. 10+220, RT 300mm x ~~3.4m OPTION PIPE~~ 3.7 CSP
PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE. 0.6m W/O GRUBBING MATERIAL DOWN SIDESLOPE AT PIPE OUTLET.
219.0
STA. 10+~~218.7~~, LT TO
REL. T.H. #42 STA. 20+051.5, RT
STEEL BEAM GUARD RAIL
STA. 10+209.5, RT
TO STA 10+260, RT
INSTALL PERMANENT SHEET PILING
POLE 153C/31
10+243, 25.5m RT.
STA. 10+209 TO STA. 10+273
PLACE SURCHARGE
SEE TRAFFIC CONTROL PLAN, PHASE 1
219.0 400.6
STA. 10+~~218.7~~, RT TO STA. 10+~~401.6~~, RT
STEEL BEAM GUARD RAIL
400.6
218.7 STA. 10+~~209.0~~, RT TO STA. 10+~~401.6~~, RT
TREATED TIMBER CURB
STA. 10+204.5 TO STA. 10+260.0
STONE FILL, TYPE IV FOR SLOPE STABILIZATION WITH GRUBBING MATERIAL AND GEOTEXTILE EXTENDING FROM STA. 10+214.5 TO STA. 10+260.0

0 10 20 30
SCALE 1:500

PLAN

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837BDR.DGN
IPARM FILE NAME: L01.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 18-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 20 OF 140

78/184/2184PL1

| VT RTE 118 CURVE DATA CURVE 1 | RELOCATED T.H. #42 CURVE DATA CURVE 2 | RELOCATED T.H. #42 CURVE DATA CURVE 3 | RELOCATED T.H. #42 CURVE DATA CURVE 4 | FIELD DRIVE CURVE DATA CURVE 5 |
|---|---|---|---|---|
| Δ=43°12'36.1" RT<br>R=235.00 m<br>T=93.07<br>L=177.22<br>E=17.76<br>$e_{MAX}$=0.0800<br>ENTRANCE TANGENT<br>N 82°22'24.8" E<br>EXIT TANGENT<br>S 54°24'59.1" E | Δ=34°19'01.6" RT<br>R=75.00 m<br>T=23.16<br>L=44.92<br>E=3.49<br>$e_{MAX}$=EXISTING X-SLOPE<br>ENTRANCE TANGENT<br>S 67° 58'45.0" E<br>EXIT TANGENT<br>S 77°42'13.3" E | Δ=23°07'35.4" RT<br>R=100.00 m<br>T=20.46<br>L=40.36<br>E=2.07<br>$e_{MAX}$=EXISTING X-SLOPE<br>ENTRANCE TANGENT<br>S 77° 42'13.3" E<br>EXIT TANGENT<br>S 54°34'37.9" E | Δ=63°33'05.0" RT<br>R=30.00 m<br>T=18.58<br>L=33.28<br>E=5.29<br>$e_{MAX}$=0.0322<br>ENTRANCE TANGENT<br>S 54°34'12.3" E<br>EXIT TANGENT<br>S 08°58'52.7" W | Δ=66° 21'00.0" RT<br>R=24.00 m<br>T=15.69<br>L=27.79<br>E=4.67<br>$e_{MAX}$=0.0200<br>ENTRANCE TANGENT<br>N 30°23'12.2" E<br>EXIT TANGENT<br>N 83°15'47.8" E |

| FIELD DRIVE CURVE DATA CURVE 6 | FIELD DRIVE CURVE DATA CURVE 7 |
|---|---|
| Δ=14°11'26.9" RT<br>R=220.00 m<br>T=27.38<br>L=54.49<br>E=1.70<br>$e_{MAX}$=0.0200<br>ENTRANCE TANGENT<br>S 83°15'47.8" E<br>EXIT TANGENT<br>S 69°04'20.9" E | Δ=87°58'53" LT<br>R=8.073<br>T=7.793<br>L=12.397<br>E=3.148<br>$e_{MAX}$=0.0482<br>ENTRANCE TANGENT<br>S 69°04'20.9" E<br>EXIT TANGENT<br>N 22°56'46" E |

| DRIVEWAY TABLE | | | |
|---|---|---|---|
| DRIVEWAY LOCATION | RADIUS | WIDTH | REMARKS |
| T.H. #42 20+069, LT. | 6m | 5.5m | GRAVEL |
| VT RTE 118 10+423, RT. | 3.6m LT., 2.5m RT. | 15.0m | GRAVEL |
| VT RTE 118 10+480, LT. | 3m | 3.6m | GRAVEL |

| CENTERLINE TIES | | | | | |
|---|---|---|---|---|---|
| VERMONT ROUTE 118 | | RELOCATED T.H. # 42 | | | |
| P.K. NAIL IN PAVEMENT PI 10+390.706 BK= PI 10+381.793 AHD. | P.K. NAIL IN PAVEMENT PT 10+474.866 | P.K. NAIL IN PAVEMENT P.O.T. 20+000.000 | P.K. NAIL IN PAVEMENT PC 20+056.147 | P.K. NAIL IN PAVEMENT PI 20+074.730 BK= PI 20+070.839 AHD. | PT 20+089.422 P.O.T. 20+096.923 |
| CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT | CONC. NAILS 305mm FROM EDGE OF PAVEMENT |

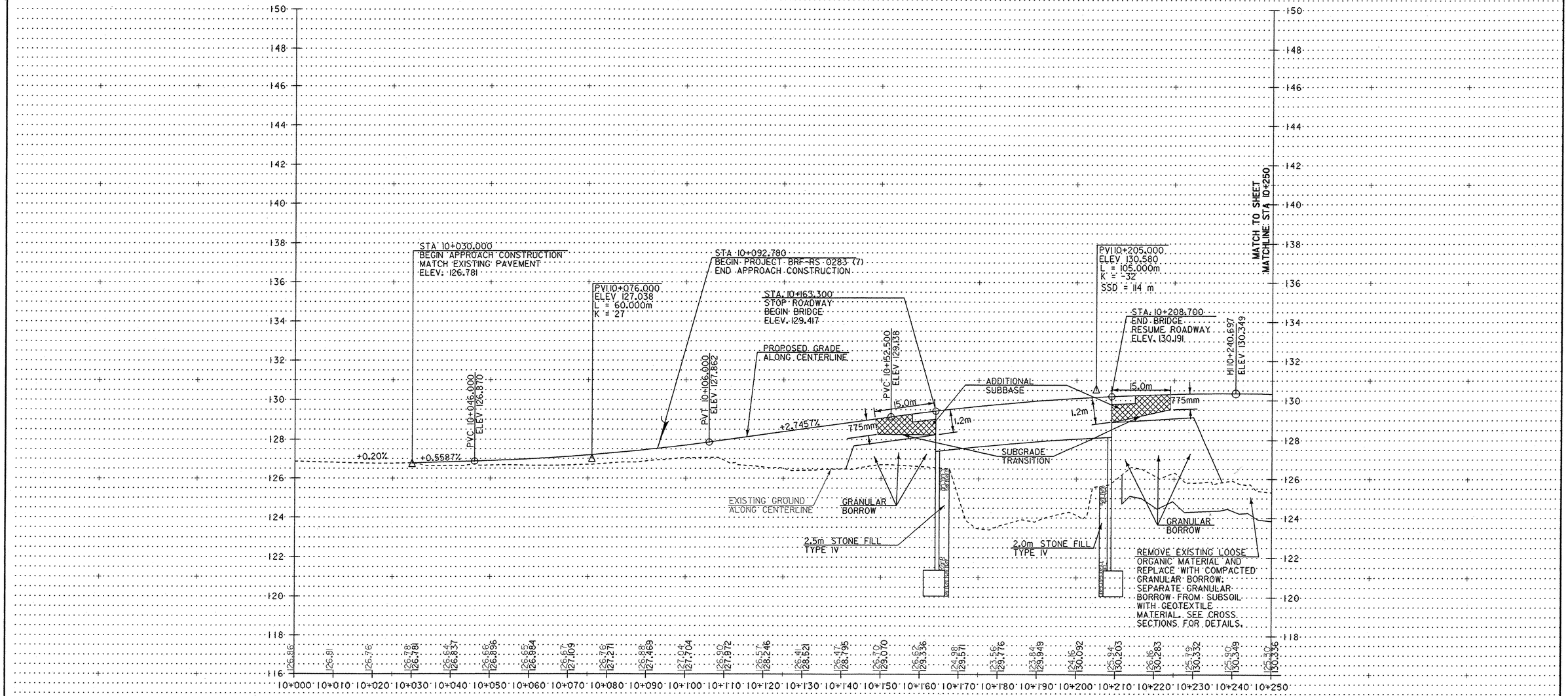
DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

SCALE 1:500

| PLAN | PROJECT: BERKSHIRE | PROJECT NO.: BRF-RS 0283(7) |
|---|---|---|
| | DESIGN FILE NAME: 02837BDR.DGN<br>IPARM FILE NAME: L02.I<br>SURVEYED BY:<br>SQUAD LEADER: | PLOT DATE: 18-FEB-2000<br>SURVEY DATE:<br>DRAWN BY: C. MABY<br>SHEET: 21 OF 140 |

78F184(21)84PL2

VAOT Metric




**VERMONT ROUTE 118**

**DATUM**

VERTICAL NGVD 1929

HORIZONTAL N/A

0 10 20
SCALE IN METERS

4 0
SCALE IN METERS

**PROFILE**

PROJECT: BERKSHIRE

PROJECT NO.: BRF-RS 0283(7)

DESIGN FILE NAME: /usr5/j9145620/02837bdr.dgn

IPARM FILE NAME: PR01.I

SURVEYED BY:

SQUAD LEADER:

PLOT DATE: 18-FEB-2000

SURVEY DATE:

DRAWN BY: C. MABY

SHEET: 22 OF 140

78f184/zf184PF1

MATCHLINE STA. 20+250
MATCH TO SHEET

PVT. 10+257.500
ELEV. 130.305

PVC. 10+260.000
ELEV. 130.292

LO. 10+274.686
ELEV. 130.254

PROPOSED GRADE
ALONG CENTERLINE

PVI 10+335.000
ELEV. 129.900
L = 150.000m
K = 28

VT. RTE. 118 STA. 10+365.760=
RELOCATED T.H. #42 STA. 20+096.923=
FIELD DRIVE STA. 40+044.980
ELEV. 131.730

PROPOSED GRADE
ALONG CENTERLINE

PVT. 10+400.000
ELEV. 133.514

VT. RTE. 118 STA. 10+423.000=
FIELD DRIVE STA. 40+126.707
ELEV. 134.491

PVC. 10+445.000
ELEV. 135.201

STA. 10+490.250
END PROJECT BRF-RS 0283(7)
BEGIN APPROACH CONSTRUCTION

PVI 10+485.000
ELEV. 137.129
L = 80.000m
K = -43
SSD = 150 m

STA. 10+533.400
END APPROACH CONSTRUCTION
MATCH EXISTING PAVEMENT
ELEV. 138.569

PVT. 10+525.000
ELEV. 138.369

-0.523%
+4.819%
+2.974%
+2.40%

EXISTING GROUND
ALONG CENTERLINE

REMOVE EXISTING LOOSE ORGANIC MATERIAL AND REPLACE WITH COMPACTED GRANULAR BORROW. SEPARATE GRANULAR BORROW FROM SUBSOIL WITH GEOTEXTILE MATERIAL. SEE CROSS SECTIONS FOR DETAILS.

| 10+250 | 10+260 | 10+270 | 10+280 | 10+290 | 10+300 | 10+310 | 10+320 | 10+330 | 10+340 | 10+350 | 10+360 | 10+370 | 10+380 | 10+390 | 10+400 | 10+410 | 10+420 | 10+430 | 10+440 | 10+450 | 10+460 | 10+470 | 10+480 | 10+490 | 10+500 | 10+510 | 10+520 | 10+530 | 10+540 | 10+550 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25.39 | 25.41 | 25.42 | 25.36 | 25.18 | 25.14 | 25.44 | 25.64 | 25.58 | 26.97 | 27.71 | 28.55 | 28.81 | 29.08 | 29.44 | 29.86 | 30.52 | 31.71 | 32.74 | 33.46 | 34.17 | 34.88 | 35.54 | 36.21 | 36.85 | 37.40 | 37.88 | 38.12 | 38.48 | 38.72 | 39.04 |
| 130.336 | 130.292 | 130.258 | 130.259 | 130.296 | 130.368 | 130.476 | 130.620 | 130.799 | 131.014 | 131.264 | 131.550 | 131.872 | 132.229 | 132.622 | 133.050 | 133.514 | 133.996 | 134.478 | 134.960 | 135.439 | 135.898 | 136.334 | 136.747 | 137.137 | 137.503 | 137.847 | 138.167 | 138.468 | 138.72 | 138.91 |

# VERMONT ROUTE 118

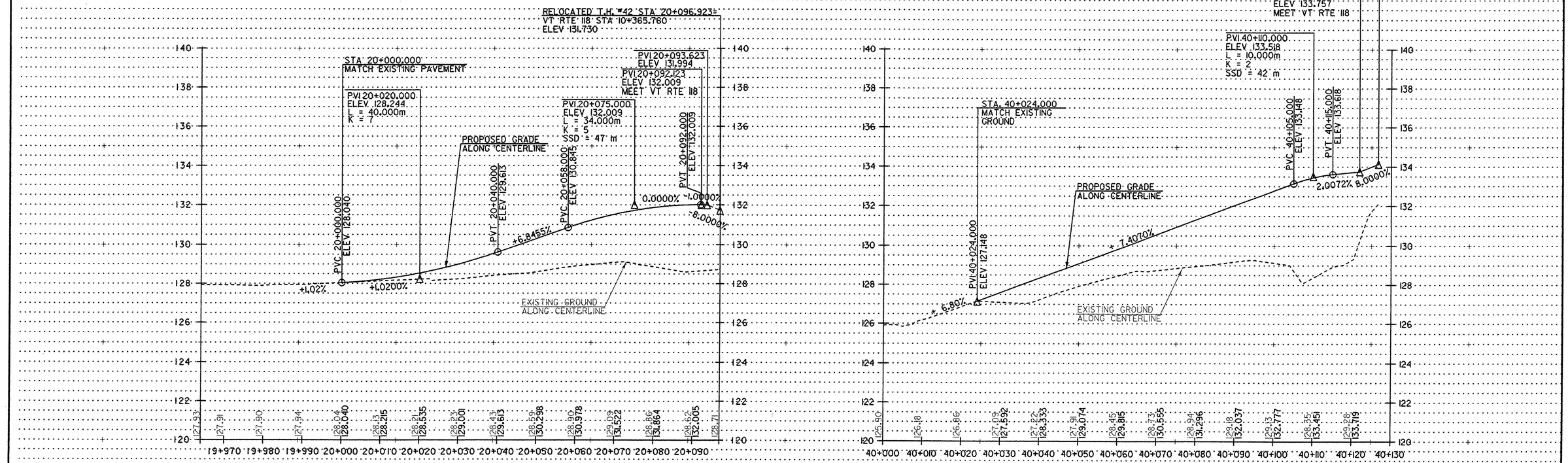
| | |
|---|---|
| DATUM | |
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

SCALE IN METERS
0 10 20
4 0

**PROFILE**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: /usr5/J9145620/02837bdr.dgn
IPARM FILE NAME: PR02.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 23 OF 140

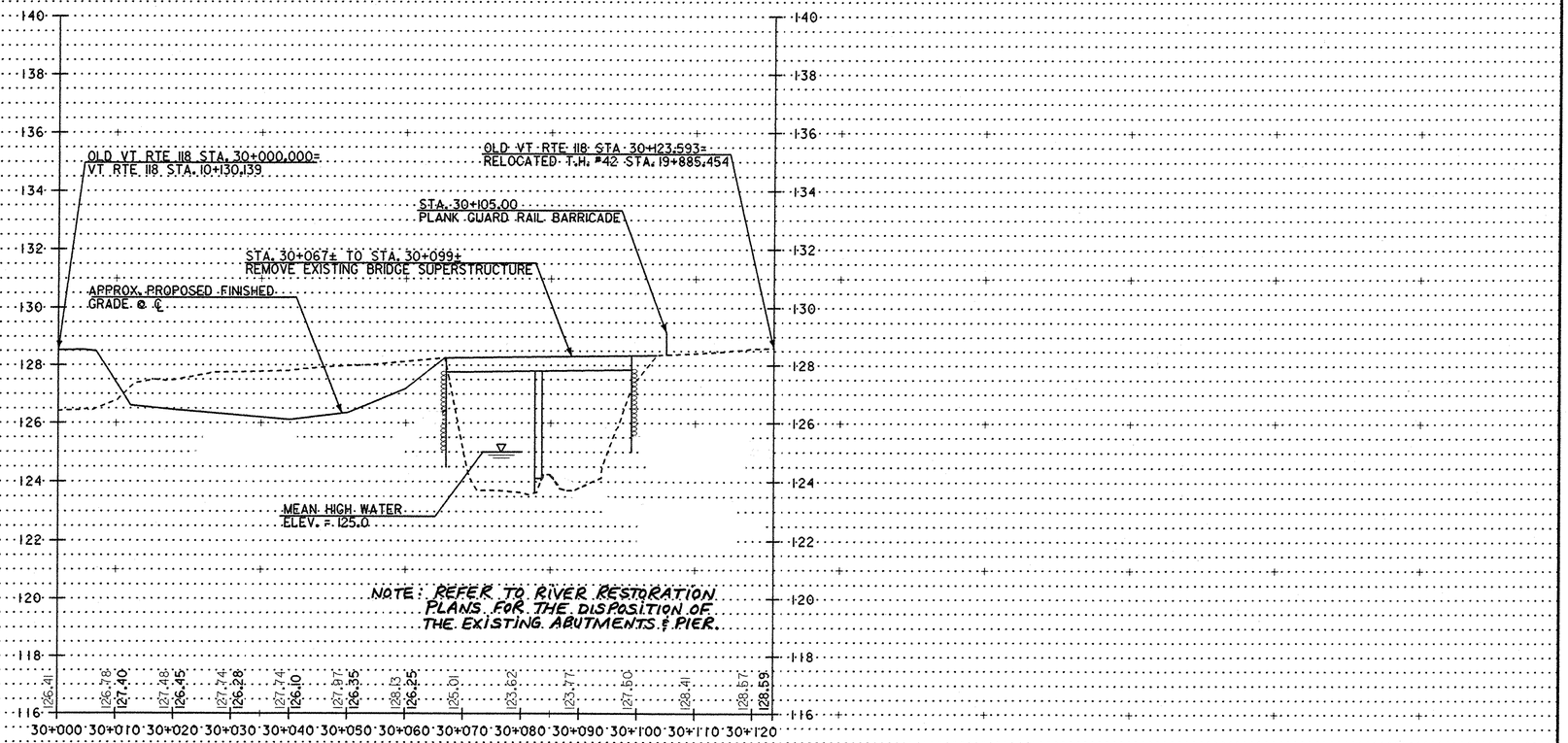
78f184/zf184PF2




| DATUM | | PROJECT: | PROJECT NO.: |
|---|---|---|---|
| VERTICAL | NGVD 1929 | BERKSHIRE | BRF-RS 0283(7) |
| HORIZONTAL | N/A | DESIGN FILE NAME: p:\j9145620\02837bdr.dgn | |
| | | IPARM FILE NAME: PR03.i | PLOT DATE: 16-FEB-2000 |
| | | SURVEYED BY: | SURVEY DATE: |
| | | SQUAD LEADER: | DRAWN BY: C. MABY |
| | | **PROFILE** | SHEET: 24 OF 140 |

78f184/zf184PF3

VAOT Metric




**OLD VERMONT ROUTE 118**

SCALE IN METERS
0 10 20
4 0

| DATUM | |
|---|---|
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

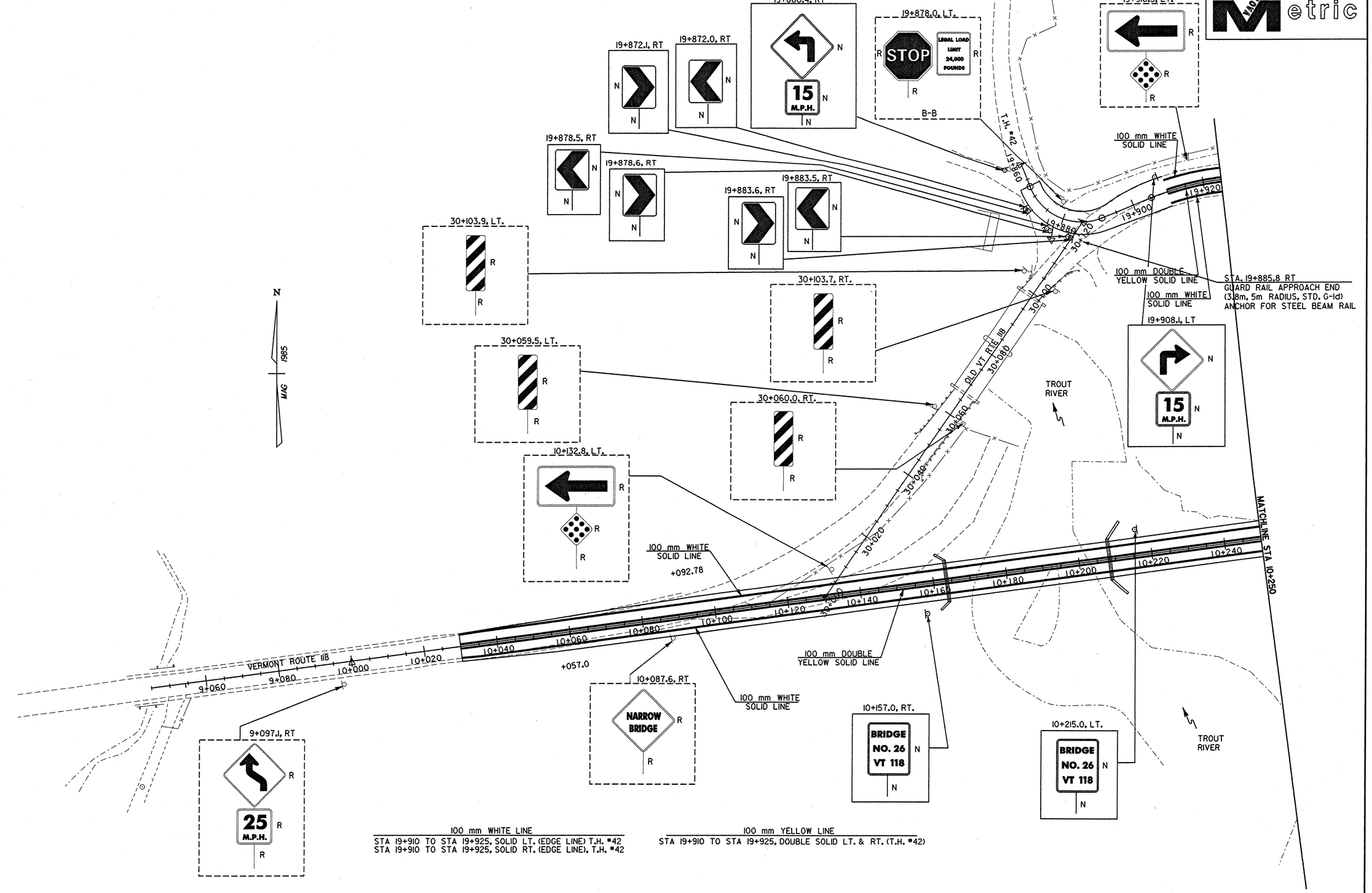
**PROFILE**

PROJECT: BERKSHIRE

PROJECT NO.: BRF-RS 0283(7)

DESIGN FILE NAME: p:\J9145620\02837bdr.dgn
IPARM FILE NAME: RPRTPROF.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 25 OF 140

781184/z184PF4




100 mm WHITE LINE
STA 19+910 TO STA 19+925, SOLID LT. (EDGE LINE) T.H. #42
STA 19+910 TO STA 19+925, SOLID RT. (EDGE LINE), T.H. #42

100 mm YELLOW LINE
STA 19+910 TO STA 19+925, DOUBLE SOLID LT. & RT. (T.H. #42)

TEMPORARY AND DURABLE 100 mm WHITE LINE
STA 10+030 TO STA 10+250, SOLID LT. (EDGE LINE)
STA 10+030 TO STA 10+250, SOLID RT. (EDGE LINE)

TEMPORARY AND DURABLE 100 mm YELLOW LINE
STA 10+030 TO STA 10+250, DOUBLE SOLID LT. & RT.

REMOVING SIGNS
AS SHOWN - 13

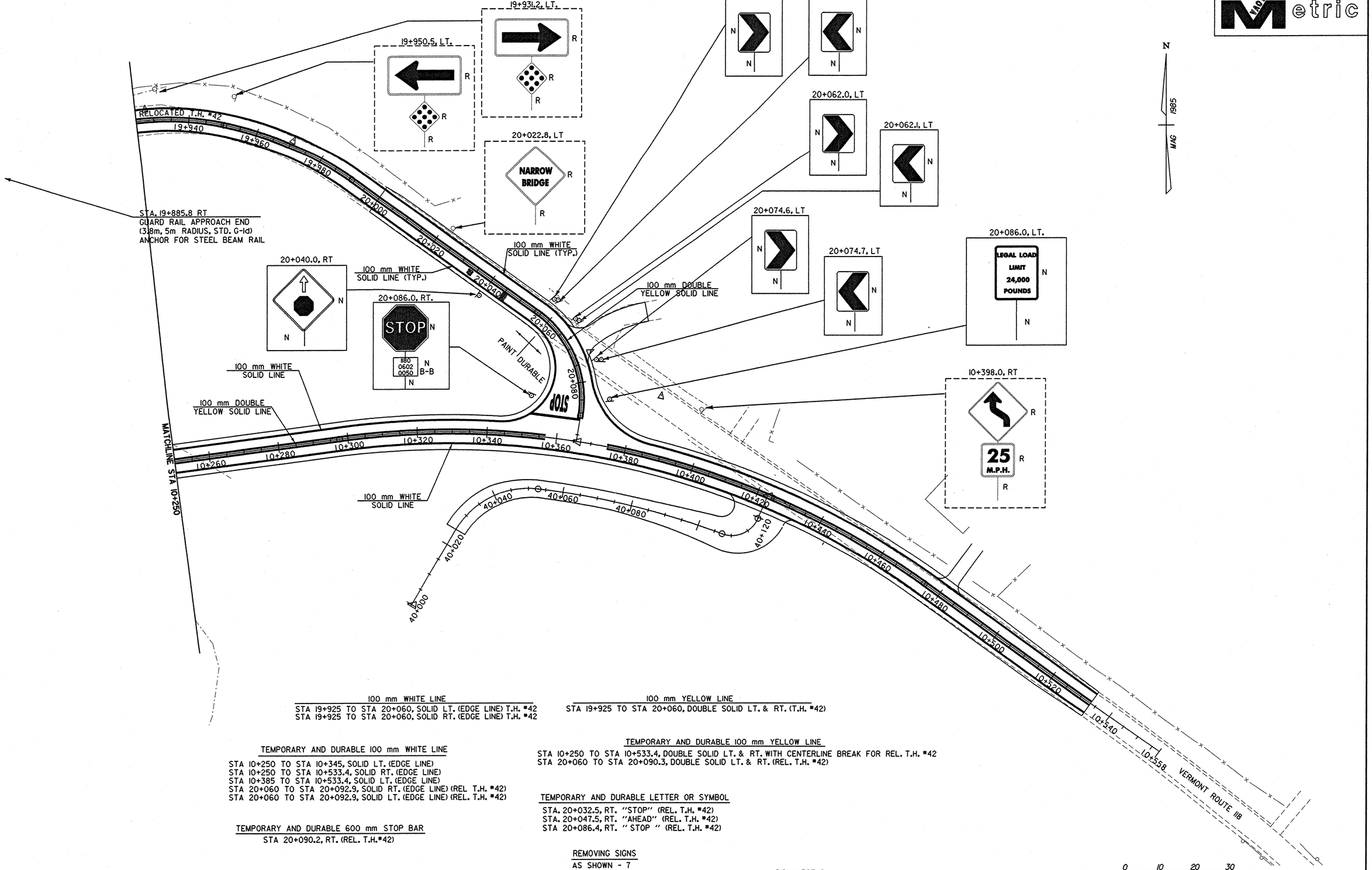
SIGN LEGEND
R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = ------
NEW = ——————

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

**PAVEMENT MARKING AND SIGN LAYOUT**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837BDR.DGN
IPARM FILE NAME: SIGN01.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 26 OF 140

78F184/zf184PM1




### 100 mm WHITE LINE

STA 19+925 TO STA 20+060, SOLID LT. (EDGE LINE) T.H. #42
STA 19+925 TO STA 20+060, SOLID RT. (EDGE LINE) T.H. #42

### 100 mm YELLOW LINE

STA 19+925 TO STA 20+060, DOUBLE SOLID LT. & RT. (T.H. #42)

### TEMPORARY AND DURABLE 100 mm WHITE LINE

STA 10+250 TO STA 10+345, SOLID LT. (EDGE LINE)
STA 10+250 TO STA 10+533.4, SOLID RT. (EDGE LINE)
STA 10+385 TO STA 10+533.4, SOLID LT. (EDGE LINE)
STA 20+060 TO STA 20+092.9, SOLID RT. (EDGE LINE) (REL T.H. #42)
STA 20+060 TO STA 20+092.9, SOLID LT. (EDGE LINE) (REL. T.H. #42)

### TEMPORARY AND DURABLE 100 mm YELLOW LINE

STA 10+250 TO STA 10+533.4, DOUBLE SOLID LT. & RT. WITH CENTERLINE BREAK FOR REL. T.H. #42
STA 20+060 TO STA 20+090.3, DOUBLE SOLID LT. & RT. (REL. T.H. #42)

### TEMPORARY AND DURABLE 600 mm STOP BAR

STA 20+090.2, RT. (REL. T.H. #42)

### TEMPORARY AND DURABLE LETTER OR SYMBOL

STA. 20+032.5, RT. "STOP" (REL. T.H. #42)
STA. 20+047.5, RT. "AHEAD" (REL. T.H. #42)
STA 20+086.4, RT. " STOP " (REL. T.H. #42)

### REMOVING SIGNS

AS SHOWN - 7

### SIGN LEGEND

R = REMOVE
S = SALVAGE
N = NEW
RET = RETAIN
B-B = BACK TO BACK
EXISTING = ------
NEW = ——————

**DATUM**

VERTICAL NGVD 1929
HORIZONTAL N/A

**PAVEMENT MARKING AND SIGN LAYOUT**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837BDR.DGN
IPARM FILE NAME: SIGN02.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 27 OF 140

78f184/zf184PM2

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# TRAFFIC SIGN SUMMARY SHEET

Last Metric

| KILOMETER MARKER, STATION, OR SIGN NUMBER | SIGN LEGEND | SIGN DIMENSIONS EA | WIDTH (mm) | HEIGHT (mm) | NEW AND SALVAGED SIGNS "A" | "B" | SALV. SIGN | SALV. T.I.S. | EXIST. POST RETAIN | EXIST. POST SALVAGE | NEW SIGN POSTS NO. OF POSTS | FLANGED CHANNEL kg/m 1.7 | 3.0 | 4.5 | SQUARE STEEL (mm) kg/m 44 3.4 | 50 3.9 | 63 5.0 | ANCHOR | SLEEVE | TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9 | 100 2.5 | 100 MOD. 2.5 | TUBULAR STEEL Ø (mm) FOUNDATION | 75 11.3 | 89 13.4 | 100 16.1 | 125 21.7 | W-SHAPE STEEL FTG. SIZE 600 mm | 750 mm | WEIGHT | POST SIZE | SIGN FRAME REQUIRED | REMARKS | SIGN DETAIL DETAIL ON SHEET NUMBER | STD. SHEET NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VT. ROUTE 118 10+157.0, RT. | BRIDGE NO. 26 VT 118 | 1 | 150 | 200 | 0.03 | | | | | | 1 | | 3.05 X | | | X | | X | | | | | | | | | | | | | | | VD - 701 | | E-134 |
| 10+215.0, LT. | BRIDGE NO. 26 VT 118 | 1 | 150 | 200 | 0.03 | | | | | | 1 | | 3.05 X | | | X | | X | | | | | | | | | | | | | | | VD - 701 | | E-134 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T.H. #42 19+860.4, RT. | | 1 | 750 | 750 | 0.56 | | | | | | 1 | | | 4.88 X | | | X | X | | | | | | | | | | | | | | | W 1 - 1L | | E-151 |
| | 15 M.P.H. | 1 | 450 | 450 | 0.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | W 13 - 1 SPEED RECOMMENDATION TO BE VERIFIED BY CONSULTANT USING BALL BANK INDICATOR UPON COMPLETION OF CONSTRUCTION OF CURVE. | | E-155 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19+872.0, RT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 19+872.1, RT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 19+878.5, RT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 19+878.6, RT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 19+883.5, RT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 19+883.6, RT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19+908.1, LT. | | 1 | 750 | 750 | 0.56 | | | | | | 1 | | | 4.88 X | | | X | X | | | | | | | | | | | | | | | W 1 - 1R | | E-151 |
| | 15 M.P.H. | 1 | 450 | 450 | 0.20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | W 13 - 1 SPEED RECOMMENDATION TO BE VERIFIED BY CONSULTANT USING BALL BANK INDICATOR UPON COMPLETION OF CONSTRUCTION OF CURVE. | | E-155 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | m² | m² | EA. | m² | | | m | m | m | | m | m | m | | EA. | kg | kg | kg | | kg | kg | kg | kg | | | | | | | | |
| | | | | | | | | | | | | 28.4 | 9.3 | | | 21.2 | 7.5 | | | | | | | | | | | | | | | | | | |
| | | | | TOTAL THIS SHEET | 2.42 | | | | | | | 37.7 | | | | 28.7 | | | | | | | | | | | | | | | | | | | | |
| | | | | **TOTALS** | m² 2.42 | m² | EA. | m² | | | | m 37.7 | | | | m 28.7 | | | | | kg | | | EA. | | | | | EA. | EA. | kg | | | | | |

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD.
POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC AND SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: p:\19145620\02837frm.dgn
IPARM FILE NAME: TRAFSUM.i
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 11-FEB-2000
SURVEY DATE:
DRAWN BY: C. TOWERS
SHEET: 28 OF 140

78f184/zf184ts1

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# TRAFFIC SIGN SUMMARY SHEET

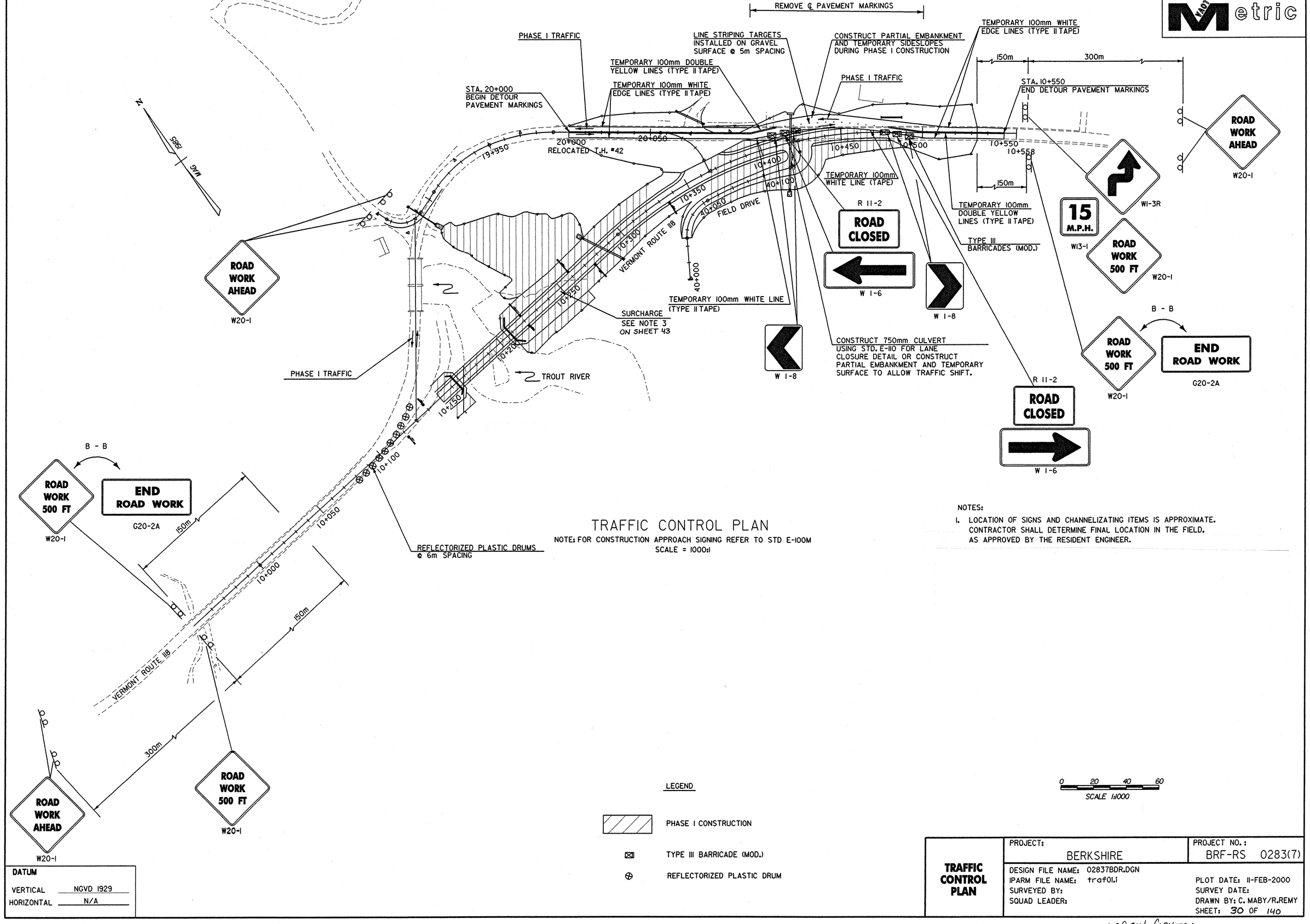
Metric

| KILOMETER MARKER, STATION, OR SIGN NUMBER | SIGN LEGEND | SIGN DIMENSIONS EA | WIDTH (mm) | HEIGHT (mm) | NEW AND SALVAGED SIGNS "A" | "B" | SALV. SIGN | SALV. T.L.S. | EXIST. POST RETAIN | EXIST. POST SALVAGE | NEW SIGN POSTS NO. OF POSTS | FLANGED CHANNEL kg/m 1.7 | 3.0 | 4.5 | SQUARE STEEL (mm) kg/m 44 3.4 | 50 3.9 | 63 5.0 | ANCHOR | SLEEVE | TUBULAR ALUMINUM Ø (mm) kg/m 75 1.9 | 100 2.5 | 100 MOD. 2.5 | TUBULAR STEEL Ø (mm) FOUNDATION | kg/m 75 11.3 | 89 13.4 | 100 16.1 | 125 21.7 | W-SHAPE STEEL FTG. SIZE 600 mm | 750 mm | WEIGHT | POST SIZE | SIGN REQUIRED | REMARKS | SIGN DETAIL DETAIL ON SHEET NUMBER | STD. SHEET NUMBER |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| T.H. #42 20+040.0, RT. | | 1 | 750 | 750 | 0.56 | | | | | | 1 | | | 4.27 X | | | X | X | | | | | | | | | | | | | | | W 3 - 1A | | E-150 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20+055.0, LT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 20+055.1, LT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20+062.0, LT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 20+062.1, LT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20+074.6, LT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| 20+074.7, LT. | | 1 | 300 | 450 | 0.14 | | | | | | 1 | | 3.66 X | | | X | | X | | | | | | | | | | | | | | | W 1 - 8 | | E-150 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20+086.0, RT. | | 1 | 750 | 750 | 0.56 | | | | | | 1 | | | 4.27 X | | | X | X | | | | | | | | | | | | | | | R 1 - 1 | | E-143 |
| | | 1 | 150 | 200 | 0.03 | | | | | | | | | | | | | | | | | | | | | | | | | | | BACK-TO-BACK WITH ABOVE APPLICATION | | E-138 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20+086.0, LT. | | 1 | 600 | 750 | 0.45 | | | | | | 1 | | | 4.27 X | | | X | X | | | | | | | | | | | | | | | VR - 017 | | E-141 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| TOTAL THIS SHEET | | | | | $m^2$ 2.44 | $m^2$ | EA. | $m^2$ | | | | m | m 23.4 | m 12.7 | m | m 18.0 | m 10.0 | EA. | kg | kg | kg | | kg | kg | kg | kg | | | | | | | | | |
| | | | | | | | | | | | | 36.1 | | | 28.0 | | | | | | | | | | | | | | | | | | | | |
| **TOTALS** | | | | | $m^2$ 4.86 | $m^2$ | EA. | $m^2$ | | | | m 73.8 | | | m 56.7 | | | | kg | | | EA. | kg | | | | EA. | EA. | kg | | | | | | |

FINAL POST LENGTHS ARE TO BE DETERMINED IN THE FIELD. POST SIZES ARE COMPUTED BASED ON INFORMATION FURNISHED ON THE STANDARD SHEETS AND THE TRAFFIC AND SAFETY DIVISION'S "SIGN POST DESIGN GUIDELINE."

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: p:\J9145620\02837frm.dgn
PARM FILE NAME: TRAFSUM2.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 11-FEB-2000
SURVEY DATE:
DRAWN BY: C. TOWERS
SHEET: 29 OF 140

76+184/zf184TS2




## TRAFFIC CONTROL PLAN

NOTE: FOR CONSTRUCTION APPROACH SIGNING REFER TO STD E-100M
SCALE = 1000:1

NOTES:

1. LOCATION OF SIGNS AND CHANNELIZATING ITEMS IS APPROXIMATE. CONTRACTOR SHALL DETERMINE FINAL LOCATION IN THE FIELD, AS APPROVED BY THE RESIDENT ENGINEER.

LEGEND

- PHASE I CONSTRUCTION
- TYPE III BARRICADE (MOD.)
- REFLECTORIZED PLASTIC DRUM

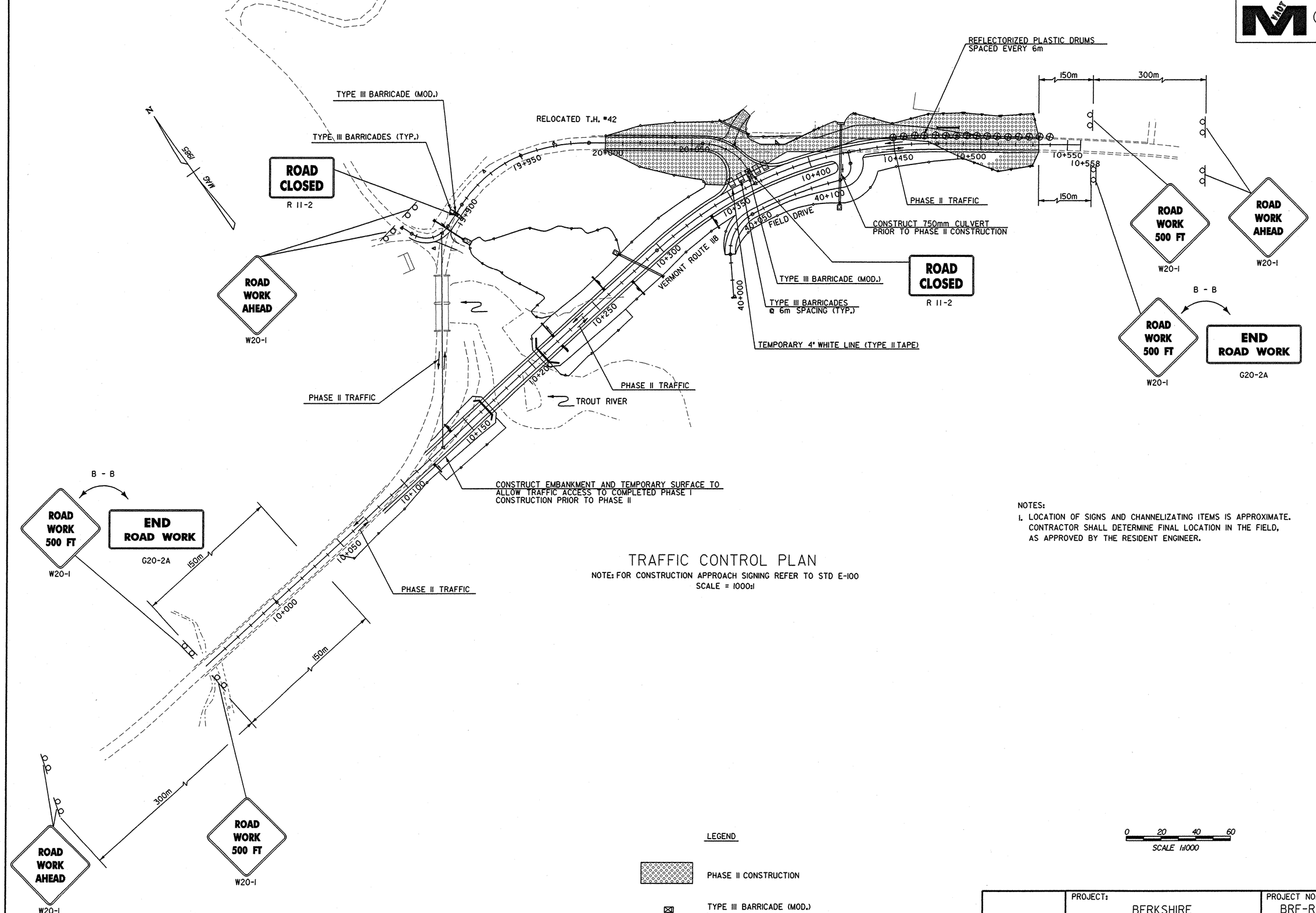
0 20 40 60
SCALE 1:1000

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

**TRAFFIC CONTROL PLAN**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837BDR.DGN
IPARM FILE NAME: traf01.i
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 11-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY/R.REMY
SHEET: 30 OF 140

78f184/zf184TC1




NOTES:

1. LOCATION OF SIGNS AND CHANNELIZATING ITEMS IS APPROXIMATE. CONTRACTOR SHALL DETERMINE FINAL LOCATION IN THE FIELD, AS APPROVED BY THE RESIDENT ENGINEER.

# TRAFFIC CONTROL PLAN

NOTE: FOR CONSTRUCTION APPROACH SIGNING REFER TO STD E-100
SCALE = 1000:1

LEGEND

- PHASE II CONSTRUCTION
- TYPE III BARRICADE (MOD.)
- TYPE III BARRICADE
- REFLECTORIZED PLASTIC DRUM

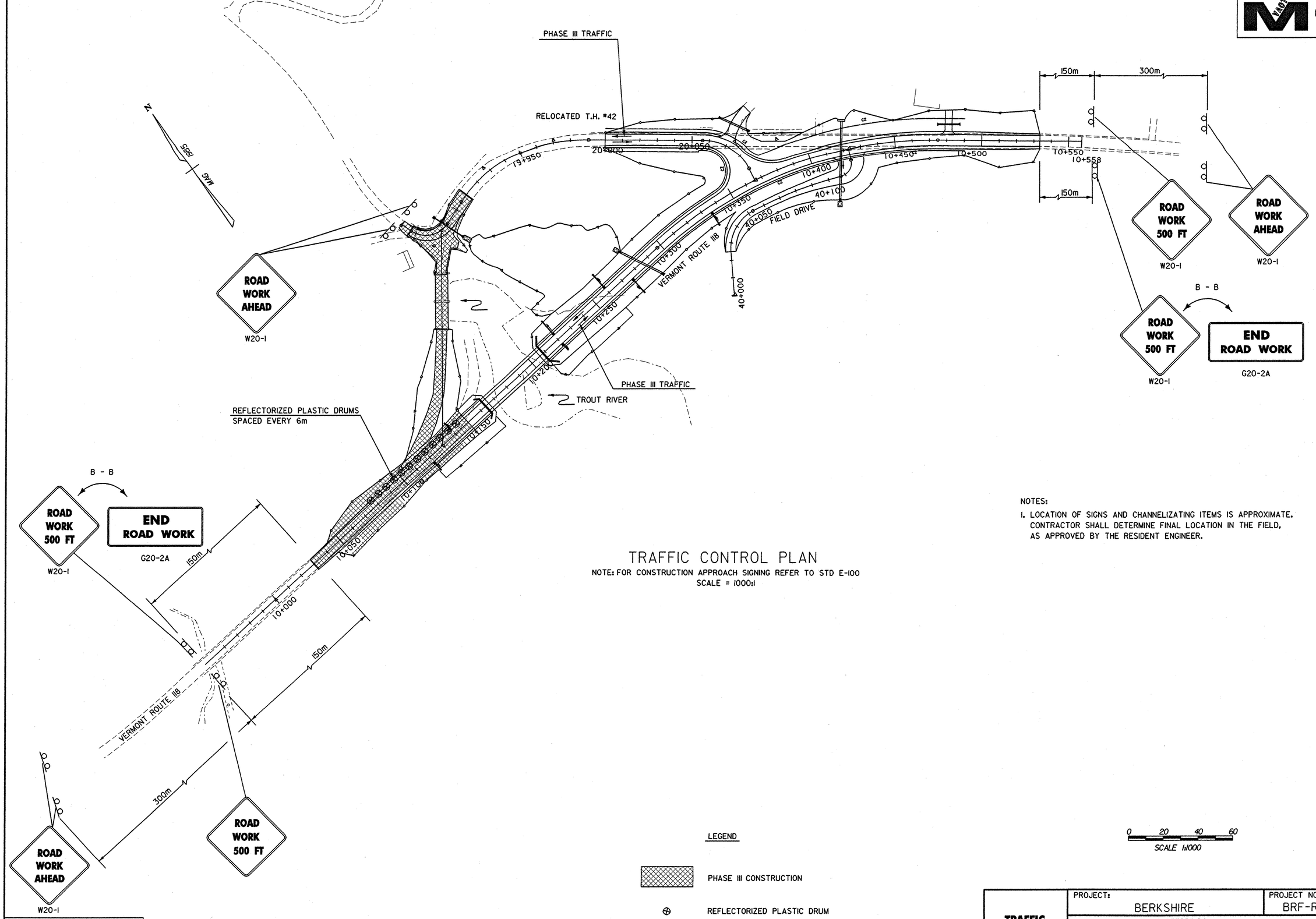
0 20 40 60
SCALE 1:1000

DATUM
VERTICAL NGVD 1929
HORIZONTAL N/A

**TRAFFIC CONTROL PLAN**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837BDR.DGN
IPARM FILE NAME: traf02.i
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 11-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY/R.REMY
SHEET: 31 OF 140

78f184/zf184tc2




# TRAFFIC CONTROL PLAN

NOTE: FOR CONSTRUCTION APPROACH SIGNING REFER TO STD E-100
SCALE = 1000:1

NOTES:

1. LOCATION OF SIGNS AND CHANNELIZATING ITEMS IS APPROXIMATE. CONTRACTOR SHALL DETERMINE FINAL LOCATION IN THE FIELD, AS APPROVED BY THE RESIDENT ENGINEER.

LEGEND

PHASE III CONSTRUCTION

REFLECTORIZED PLASTIC DRUM

0 20 40 60
SCALE 1:1000

DATUM

VERTICAL NGVD 1929
HORIZONTAL N/A

**TRAFFIC CONTROL PLAN**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837BDR.DGN
IPARM FILE NAME: traf03.i
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 11-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY/R.REMY
SHEET: 32 OF 140

78f184/zf184tc3

RELOCATED CULVERT

CULVERT TO BE REMOVED

N

MAG 1985

DRIVE

1 STORY HOUSE

PORCH

TROUT RIVER

OLD ROAD

PROPOSED NEW CHANNEL

GULLY

SAVE

SEE DETAIL SHEET 33

REMOVE

SEE NOTE 2

WETLAND BUFFER

WETLAND BOUNDARY

AH-1

AH-2

AH-3

A

A'

B

B'

C

C'

CL

NOTES:

1) SOME VARIATION FROM THE PROPOSED CONTOURS SHOWN ON THIS PLAN IS ACCEPTABLE. HOWEVER, THE GRADING MUST CONFORM TO THE CONCEPT AND ELEVATIONS PRESENTED HERE; MUST PROVIDE AN IRREGULARLY SHAPED AND SLOPED BASIN; AND WILL BE SUBJECT TO INSPECTION AND ACCEPTANCE BY THE VAOT.

2) THIS CROSS CULVERT IS A MAJOR WATER SOURCE TO THE CONSTRUCTED WETLAND AND THE LOCATION SHALL NOT BE REVISED WITHOUT APPROVAL OF THE VAOT.

**LEGEND**

125.25 — PROPOSED CONTOURS

A — A' — WETLAND CROSS SECTION LOCATION

AH-2 — AUGER HOLE

0 10 20 30

SCALE 1:400

| DATUM | |
|---|---|
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

**WETLAND MITIGATION PLAN**

**GRADING PLAN**

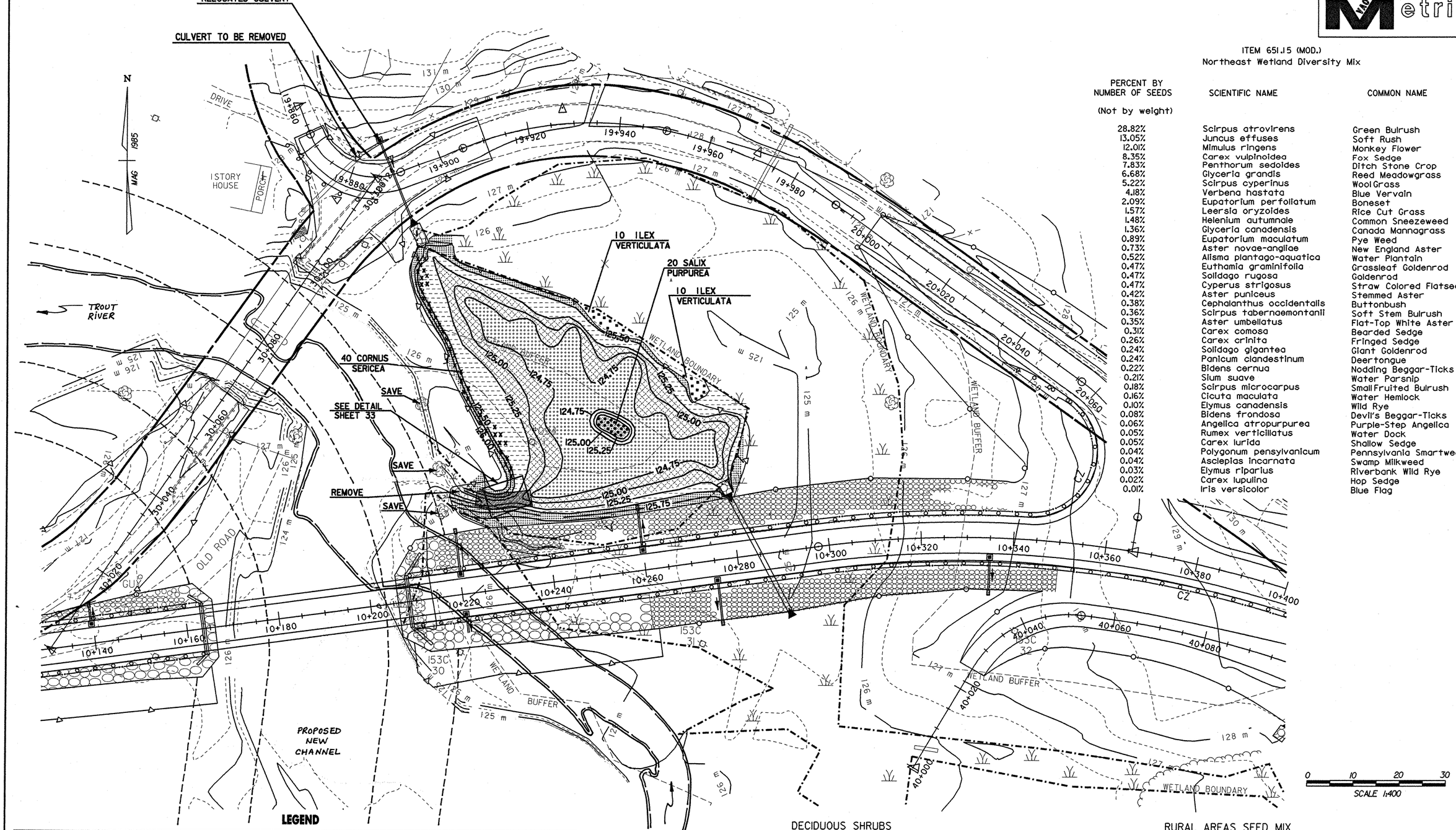
PROJECT: BERKSHIRE

PROJECT NO.: BRF-RS 0283 (7)

DESIGN FILE NAME: wetmitgr.dgn
IPARM FILE NAME: wetmitgr.i
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 35 OF 140

78f184/zf184wm1




ITEM 651.15 (MOD.)
Northeast Wetland Diversity Mix

| PERCENT BY NUMBER OF SEEDS (Not by weight) | SCIENTIFIC NAME | COMMON NAME |
|---|---|---|
| 28.82% | Scirpus atrovirens | Green Bulrush |
| 13.05% | Juncus effuses | Soft Rush |
| 12.01% | Mimulus ringens | Monkey Flower |
| 8.35% | Carex vulpinoidea | Fox Sedge |
| 7.83% | Penthorum sedoides | Ditch Stone Crop |
| 6.68% | Glyceria grandis | Reed Meadowgrass |
| 5.22% | Scirpus cyperinus | Wool Grass |
| 4.18% | Verbena hastata | Blue Vervain |
| 2.09% | Eupatorium perfoliatum | Boneset |
| 1.57% | Leersia oryzoides | Rice Cut Grass |
| 1.48% | Helenium autumnale | Common Sneezeweed |
| 1.36% | Glyceria canadensis | Canada Mannagrass |
| 0.89% | Eupatorium maculatum | Pye Weed |
| 0.73% | Aster novae-angliae | New England Aster |
| 0.52% | Alisma plantago-aquatica | Water Plantain |
| 0.47% | Euthamia graminifolia | Grassleaf Goldenrod |
| 0.47% | Solidago rugosa | Goldenrod |
| 0.47% | Cyperus strigosus | Straw Colored Flatsedge |
| 0.42% | Aster puniceus | Stemmed Aster |
| 0.38% | Cephalanthus occidentalis | Buttonbush |
| 0.36% | Scirpus tabernaemontanii | Soft Stem Bulrush |
| 0.35% | Aster umbellatus | Flat-Top White Aster |
| 0.31% | Carex comosa | Bearded Sedge |
| 0.26% | Carex crinita | Fringed Sedge |
| 0.24% | Solidago gigantea | Giant Goldenrod |
| 0.24% | Panicum clandestinum | Deertongue |
| 0.22% | Bidens cernua | Nodding Beggar-Ticks |
| 0.21% | Sium suave | Water Parsnip |
| 0.18% | Scirpus microcarpus | Small Fruited Bulrush |
| 0.16% | Cicuta maculata | Water Hemlock |
| 0.10% | Elymus canadensis | Wild Rye |
| 0.08% | Bidens frondosa | Devil's Beggar-Ticks |
| 0.06% | Angelica atropurpurea | Purple-Step Angelica |
| 0.05% | Rumex verticillatus | Water Dock |
| 0.05% | Carex lurida | Shallow Sedge |
| 0.04% | Polygonum pensylvanicum | Pennsylvania Smartweed |
| 0.04% | Asclepias incarnata | Swamp Milkweed |
| 0.03% | Elymus riparius | Riverbank Wild Rye |
| 0.02% | Carex lupulina | Hop Sedge |
| 0.01% | Iris versicolor | Blue Flag |

## LEGEND

| ZONE | | SPECIES | TYPE / QUANTITY | ITEM NO. |
|---|---|---|---|---|
| A | OPEN WATER ( > 300 mm ) | [1] UNPLANTED | ——— | ——— |
| B | PERMANENTLY INUNDATED / SATURATED | [1] TYPHA LATIFOLIA/ PHALARIS ARUNDINACCA | TRANSPLANT WETLAND TOPSOIL | ——— |
| C | TEMPORARILY FLOODED / SEASONALLY SATURATED | [1,2] NORTHEAST WETLAND DIVERSITY MIX | 2.2 kg/ha (2lb/ac) | 651.15 (MOD.) |
| D | UPLAND | RURAL AREAS SEED MIX | 33 kg/ha (30lb/ac) | 651.15 |

DECIDUOUS SHRUBS

| SPECIES | TYPE / QUANTITY | ITEM NO. |
|---|---|---|
| X CORNUS SERICEA (RED-OSIER DOGWOOD) | 40; 60-90 cm (24-36 in.) CONT.; STAGGER ALONG BASE OF SLOPE AND AS SHOWN; 2 m (6 ft.) ON CENTER | 656.35 |
| ■ ILEX VERTICULATA (WINTERBERRY) | 20; 60-90 cm (24-36 in.) CONT.; 2 m (6 ft) ON CENTER | 656.35 |
| ● SALIX PURPUREA (STREAMCO WILLOW) | 20; 60 cm (24in.) ROOTED CUTTINGS; 2 m (6 ft) ON CENTER | 656.35 |

RURAL AREAS SEED MIX

| % WT. | kg/ha | NAME | PUR. % | GERM % |
|---|---|---|---|---|
| 37.5 | 37.5 | CREEPING RED FESCUE | 98 | 85 |
| 37.5 | 37.5 | TALL FESCUE | 95 | 90 |
| 5.0 | 37.5 | RED TOP | 95 | 90 |
| 15.0 | 37.5 | BIRDSFOOT TREFOIL | 98 | 85 |
| 5.0 | 37.5 | ANNUAL RYEGRASS | 95 | 85 |
| 100.0 | 37.5 | | | |

THE SEED MIXTURE SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS WEED SEED.

**DATUM**
VERTICAL NGVD 1929
HORIZONTAL N/A

[1] TO BE ADDITIONALLY SEEDED WITH WINTER RYEGRASS (ITEM 651.17) AT A RATE OF 5.6 kg/ha (5lb/ac) FOR TEMPORARY STABILIZATION.

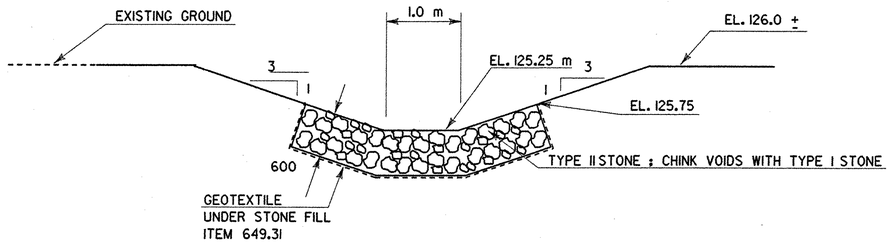
[2] AVAILABLE FROM SOUTHERN TIER CONSULTING, INC., WEST CLARKSVILLE, N.Y., OR SUBSTITUTE AS APPROVED BY VAOT.

**WETLAND MITIGATION PLAN**

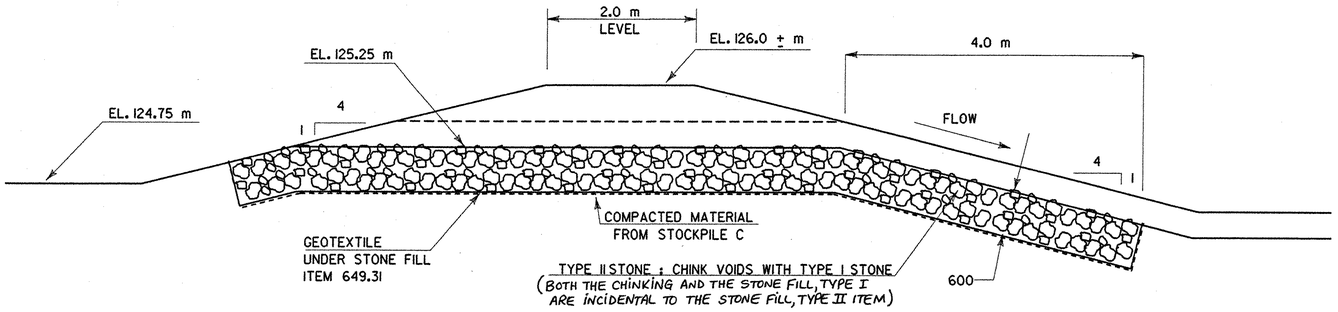
**LANDSCAPE PLAN**

PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283 (7)
DESIGN FILE NAME: p:\j9145620\wetmitpp.dgn
IPARM FILE NAME: wetmitpp.i
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 36 OF 140

78f184/zf184WM2




## CROSS SECTION OF STONE SPILLWAY




## PROFILE ALONG ℄ OF SPILLWAY

## WETLAND CONSTRUCTION SEQUENCE [1, 2]

1. STAKE OUT EXISTING WETLAND BOUNDARIES. CONSTRUCTION EQUIPMENT IS PROHIBITED IN WETLANDS AREA BEYOND DEFINED SLOPE LIMITS.
2. STRIP 300 mm (12 in.) TOPSOIL FROM WETLAND IMPACT AREA AND STOCKPILE (STOCKPILE A).
3. EXCAVATE 300 mm (12 in.) SUBSOIL (SILT) FROM WETLAND IMPACT AREA AND STOCKPILE (STOCKPILE C).
4. STRIP 300 mm (12 in.) TOPSOIL FROM WETLAND MITIGATION AREA AND STOCKPILE (STOCKPILE B). TO BE USED AS TOPSOIL IN PLANTING ZONE C AND GRUBBING MATERIAL ON ROADWAY EMBANKMENT.
5. EXCAVATE 300 mm (12 in.) OF SILT FROM MITIGATION AREA AND STOCKPILE (STOCKPILE C).
6. COMPLETE OVEREXCAVATION OF MITIGATION AREA TO AN ELEVATION 600 mm (24 in.) BELOW FINISHED GRADE. THIS MATERIAL TO SPOIL OR AS NEEDED ON SITE.
7. INSPECTION BY VTRANS WETLAND SCIENTIST AND ENGINEER.
8. PLACE MATERIAL FROM STOCKPILE C IN PLANTING ZONES B, C, AND D TO A THICKNESS OF 300 mm (12 in.) AND TO A THICKNESS OF 600 mm (24 in.)IN PLANTING ZONE A. ANY SHORTFALL IN MATERIAL FROM STOCKPILE C MAY BE MADE UP FROM STOCKPILE B; HOWEVER, MATERIAL FROM STOCKPILE B SHOULD NOT BE PLACED IN PLANTING ZONE A. THIS MATERIAL SHALL BE PLACED IN 150 mm (6 IN.) LIFTS AND COMPACTED TO 95 PERCENT COMPACTION EFFORT USING VIBRATORY COMPACTION.
9. PLACE 300 mm (12 in.) OF MATERIAL FROM STOCKPILE A IN PLANTING ZONE B.
10. PLACE 300 mm (12 in.) OF MATERIAL FROM STOCKPILE B IN PLANTING ZONES C AND D.
11. INSPECTION BY VTRANS WETLAND SCIENTIST AND ENGINEER.
12. SEED AND PLANT SHRUBS ACCORDING TO LANDSCAPE PLAN. SEEDING SHOULD BE CONDUCTED AS FOLLOWS:
    A. SCARIFY AREA WITH YORK RAKE OR SIMILIAR IMPLEMENT.
    B. BROADCAST SEED AT PRESCRIBED RATES.
    C. RAKE LIGHTLY TO APROXIMATE DEPTH OF 12 mm (0.5 in.) TO INCORPORATE SEED INTO SOIL.
    D. COMPACT WITH HAND ROLLER.
13. INSPECTION BY WETLAND SCIENTIST AND ENGINEER.
14. CONSTRUCT WATER CONTROL STRUCTURE WITH COMPACTED MATERIAL FROM STOCKPILE C.
15. INSPECTION BY VTRANS WETLAND SCIENTIST AND ENGINEER.

[1] CONSTRUCTION OF THE MITIGATION AREA SHOULD BE UNDERTAKEN WHEN GROUNDWATER AND SURFACE WATER LEVELS ARE LOW. THE CONTRACTOR SHALL OBTAIN APPROVAL PRIOR TO INITIATING WORK ON THE MITIGATION AREA.

[2] SEE SHEET 36 FOR KEY TO PLANTING ZONES.

ALL DETAILS "N.T.S." (NOT TO SCALE)
ALL DIMENSIONS IN MILLIMETERS EXCEPT AS INDICATED

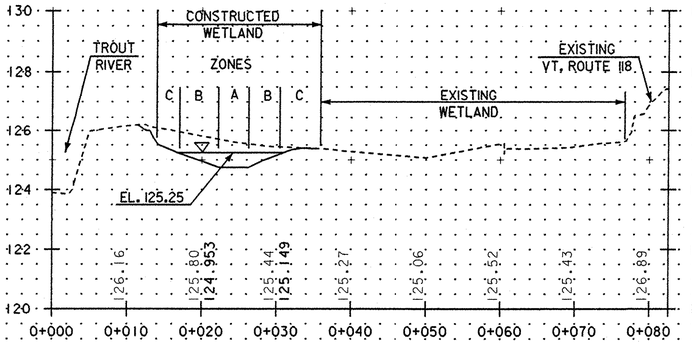
DATUM
VERTICAL _____
HORIZONTAL _____

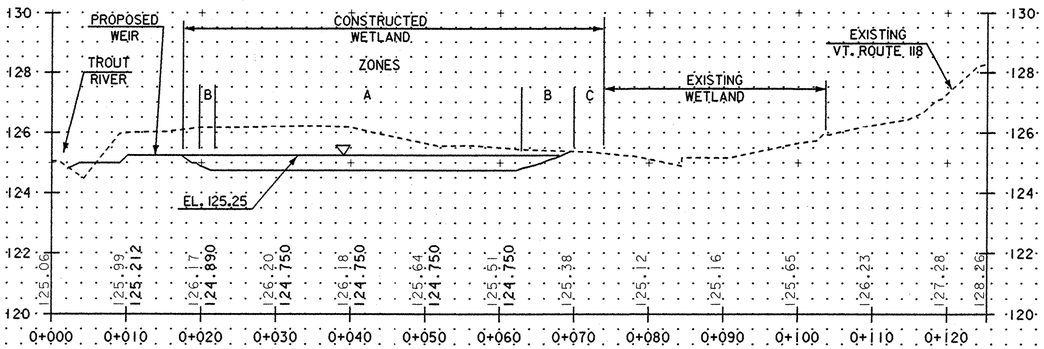
**WETLAND MITIGATION PLAN**

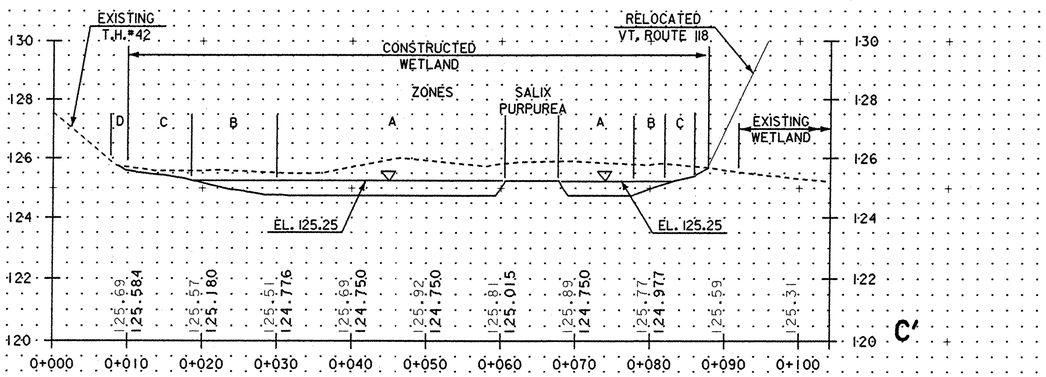
**DETAILS**

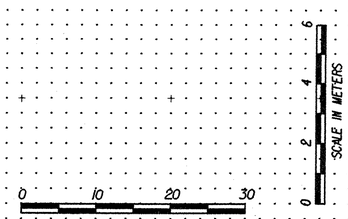
PROJECT: BERKSHIRE
PROJECT NO.: BRF-RS 0283(7)
DESIGN FILE NAME: 02837FRM.DGN
IPARM FILE NAME: 02837WDT.I
SURVEYED BY:
SQUAD LEADER:
PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 37 OF 140

78f184/zf184WM3




DATUM

VERTICAL NGVD 1929

HORIZONTAL N/A

# RECORDS OF AUGER HOLES IN WETLAND MITIGATION AREA

| NUMBER | DEPTH (cm) | DESCRIPTION |
|---|---|---|
| AH- 1<br>EL. = 125.93 m | 0 - 53.3<br>53.3 - 66.0<br>66.0 - 71.1<br>71.1 - 183<br>SATURATED AT 104 cm | SILT<br>SILT WITH TRACE OF SAND<br>SILT<br>FINE/MEDIUM SAND |
| AH-2<br>EL. = 125.82 m | 0 - 71.0<br>71.0 - 76.2<br>76.2 - 86.4<br>WATER NOT ENCOUNTERED | SILT<br>MEDIUM SAND<br>MEDIUM SAND WITH SOME GRAVEL |
| AH-3<br>EL. = 126.08 m | 0 - 101.6<br>101.6 - 170.2<br>170.2 - 185.0<br>WATER NOT ENCOUNTERED | SILT<br>VERY FINE SAND GRADING TO FINE SAND<br>MEDIUM SAND WITH SOME GRAVEL |

**WETLAND MITIGATION PLAN**

**CROSS SECTIONS AND SOIL DESCRIPTIONS**

PROJECT: BERKSHIRE

PROJECT NO.: BRF-RS 0283 (7)

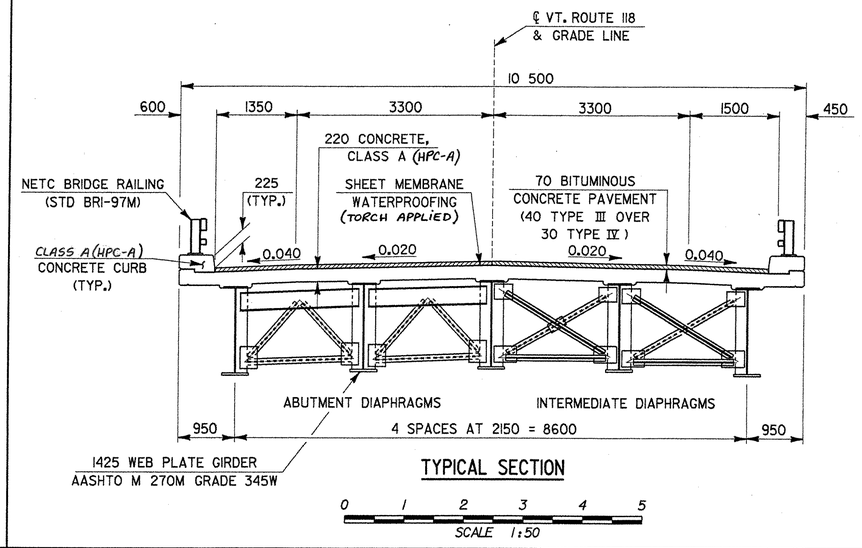
DESIGN FILE NAME: wetmitgr.dgn
IPARM FILE NAME: wetmitgr2.i
SURVEYED BY:
SQUAD LEADER:

PLOT DATE: 16-FEB-2000
SURVEY DATE:
DRAWN BY: C. MABY
SHEET: 38 OF 140

78f184/zf184WM4

## INDEX OF BRIDGE SHEETS


| | |
|---|---|
| BR1 | PRELIMINARY INFORMATION SHEET |
| BR2 | BRIDGE QUANTITY SHEET |
| BR3 | TYPICAL ABUTMENT AND WINGWALL SECTIONS |
| BR4 | SETTLEMENT INSTRUMENTATION PLAN |
| BR5 | BORING INFORMATION SHEET |
| BR6 | BORING LOG SHEET - 1 |
| BR7 | BORING LOG SHEET - 2 |
| BR8 | BORING LOG SHEET - 3 |
| BR9 | BORING LOG SHEET - 4 |
| BR10 | BORING LOG SHEET - 5 |
| BR11 | PLAN AND ELEVATION |
| BR12 | TYPICAL SECTION AND DECK PLAN |
| BR13 | FRAMING PLAN AND GIRDER ELEVATION |
| BR14 | CROSS FRAME DETAILS |
| BR15 | SPLICE DETAILS |
| BR16 | BEARING DETAILS |
| BR17 | EXPANSION JOINT DETAILS SHEET - 1 |
| BR18 | EXPANSION JOINT DETAILS SHEET - 2 |
| BR19 | MISCELLANEOUS DETAILS |
| BR20 | ABUTMENT NO. 1 & NO. 2 FOOTING LAYOUT |
| BR21 | ABUTMENT NO. 1 & NO. 2 FOOTING REINFORCING |
| BR22 | ABUTMENT NO. 1 PLAN AND ELEVATION |
| BR23 | ABUTMENT NO. 1 REINFORCING |
| BR24 | ABUTMENT NO. 2 PLAN AND ELEVATION |
| BR25 | ABUTMENT NO. 2 REINFORCING |
| BR26 | WINGWALL REINFORCING |
| BR27 | APPROACH SLAB DETAILS |
| BR28 | REINFORCING STEEL SCHEDULE |


## GENERAL NOTES

1. UNLESS OTHERWISE NOTED, ALL STATIONS ARE IN KILOMETERS, ALL ELEVATIONS ARE IN METERS, AND ALL DIMENSIONS ARE IN MILLIMETERS.
2. ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION (DATED 2001 , AND ITS LATEST REVISIONS, AND THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES (DATED 1996 , AND ITS LATEST REVISIONS.
3. DESIGN IS FOR MS-22.5 LOADING, USING LOAD FACTOR METHOD.
4. ALL STRUCTURAL STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH SECTION 506. OF THE STANDARD SPECIFICATIONS.
5. AFTER SUPERSTRUCTURE STEEL HAS BEEN ERECTED, ELEVATIONS ALONG THE TOP OF BEAMS SHALL BE TAKEN AS DIRECTED BY THE ENGINEER FOR USE IN DETERMINING FINAL GRADE.
6. ANY HOLES IN FASCIA BEAMS OR FASCIA GIRDER WEBS NOT OTHERWISE FILLED SHALL BE FILLED WITH BUTTON HEAD OR HEX HEAD BOLTS MEETING AASHTO M 164M, TYPE III. THESE BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH SECTION 506.19. GALVANIZED TYPE I BOLTS SHALL BE USED IN PAINTED AREAS.
7. FASCIA OVERHANG BRACKETS SHALL BE SPACED AT A MAXIMUM OF 1220, AND SHALL BE DESIGNED BY THE CONTRACTOR.
8. ALL FIELD CONNECTIONS SHALL BE MADE WITH M22 DIAMETER BOLTS, MEETING ASTM DESIGNATION A-325M (AASHTO M 164M TYPE III). HOLES SHALL BE 24 DIAMETER. CONNECTIONS NOT DESIGNATED SHALL BE DETAILED BY THE FABRICATOR. GALVANIZED TYPE I BOLTS SHALL BE USED IN PAINTED AREAS.
9. ALL REINFORCING STEEL SHALL BE DETAILED AND FABRICATED USING PROCEDURES AND TOLERANCES IN ACCORDANCE WITH APPLICABLE PUBLICATIONS OF THE "CONCRETE REINFORCING STEEL INSTITUTE".
10. MINIMUM COVER FOR REINFORCING STEEL IN SUBSTRUCTURES SHALL BE 50 ALONG BACK FACES OF WALLS AGAINST EARTH AND 75 ELSEWHERE, UNLESS OTHERWISE DESIGNATED ON PLANS.
11. REINFORCING PLACEMENT TOLERANCES SHALL BE:
    SPACING +/- 25
    CLEARANCE +/- 6
12. DECK CONCRETE SHALL BE "CONC. CL A(HPC-A)". CURBS AND HEADER OF ABUTMENT NO. 2 SHALL BE "CONC. CL A(HPC-A)". ALL OTHER CONCRETE SHALL BE "CONC. CL B(HPC-B)" UNLESS OTHERWISE DESIGNATED ON THE PLANS.
13. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 25 BY 25
14. THE FOLLOWING THICKNESS TOLERANCES SHALL BE ADHERED TO:

| MATERIAL | THICKNESS TOLERANCE |
|---|---|
| | +/- 6 |
| BIT. CONC. PAVEMENT (ON BRIDGE) | +/- 6/LIFT |
| BIT. CONC. PAVEMENT (OFF BRIDGE) | +/- 25 |
| SUBBASE | +/- 25 |
| GRANULAR BORROW | |

15. WATER REPELLENT SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES EXCEPT THE UNDERSIDE OF DECK BETWEEN DRIP BEADS.
16. ALL DIMENSIONS ARE HORIZONTAL OR VERTICAL AND ARE GIVEN AT 68°F, UNLESS NOTED.
17. TRAFFIC SHALL BE ALLOWED ON THE NEW BRIDGE ONLY AFTER THE SPECIFIED CURE PERIOD HAS EXPIRED AND THE 28 DAY DESIGN STRENGTH HAS BEEN REACHED AS EVIDENCED BY TEST CYLINDERS CURED UNDER FIELD CONDITIONS.
18. JOINTS AND SCORE MARKS IN CONCRETE SHALL BE CONSTRUCTED AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.
19. THE KEY IN CONCRETE CONSTRUCTION JOINTS SHALL BE MONOLITHIC AND CONTINUOUS FOR THE FULL LENGTH OF THE JOINT.
20. DECK POURS ARE TO BE CONSTRUCTED IN ONE CONTINUOUS OPERATION WITH A MAXIMUM DURATION OF EIGHT HOURS. IF CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL PREVENT THIS FROM BEING ACCOMPLISHED, A NINETY-SIX HOUR DELAY BETWEEN THE COMPLETION OF ONE DAY'S POUR AND THE BEGINNING OF ANOTHER DECK POUR SHALL BE OBSERVED.
21. SURFACES OF BRIDGE SEATS UNDER BEARING DEVICES SHALL BE LEVEL. OTHER BRIDGE SEAT AREAS SHALL BE SLOPED 4.2% TOWARD CENTER SPAN. THE ENTIRE BRIDGE SEAT SURFACE SHALL BE SMOOTHED WITH EITHER A WOOD OR MAGNESIUM FLOAT FINISH.
22. ALL STEEL PAID UNDER THE ITEM 506.55 "STRUCTURAL STEEL" (PLATE GIRDER) SHALL CONFORM TO AASHTO M 270M GRADE 345W UNLESS OTHERWISE NOTED.
23. ALL STRUCTURAL STEEL WITHIN 2450 OF ABUTMENT NO. 2 SHALL BE COATED WITH A PROTECTIVE PAINT SYSTEM AND GREASE AS SPECIFIED IN SUPPLEMENTAL SPECIFICATION 513. THE COLOR OF PAINT WILL BE BROWN, COLOR CHIP 20059. ALL COSTS SHALL BE INCLUDED IN ITEM 513.40, SURFACE PREPARATION, SHOP, AND ITEM 513.25, STRUCTURAL PAINTING, SHOP APPLIED.
24. STEEL HP 360 X 108 PILES SHALL BE DRIVEN TO A REQUIRED ULTIMATE CAPACITY EQUAL TO 2600 KN. PILE TIP REINFORCEMENT IS REQUIRED AND SHALL CONFORM TO SUBSECTION 505.04(E). THE CONTRACTOR'S DRIVING HAMMER WILL HAVE TO OVERCOME A FRICTIONAL RESISTANCE OF 980 KN DURING DRIVING.
25. PAYMENT FOR REMOVAL OF ALL EXISTING BRIDGE BITUMINOUS CONCRETE PAVEMENT SHALL BE MADE UNDER ITEM 529.10. THE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF PROPERLY AT AN OFF SITE LOCATION.
26. ITEM 529.20, PARTIAL REMOVAL OF STRUCTURE, SHALL INCLUDE THE REMOVAL OF THE ENTIRE SUPERSTRUCTURE AND REMOVAL OF THE PIER TO 300 ABOVE STREAM BED. THE EXISTING BEAMS SHALL BECOME THE PROPERTY OF THE CONTRACTOR. NO TEMPORARY FILL SHALL BE PERMITTED IN THE RIVER FOR REMOVAL OPERATIONS UNLESS THE CONTRACTOR OBTAINS THE REQUIRED PERMITS.
27. TRAFFIC WILL BE MAINTAINED ON THE EXISTING BRIDGE.
28. THE STRUCTURAL STEEL OF THE EXISTING BRIDGE ON THIS PROJECT IS PAINTED WITH A MATERIAL WHICH MAY CONTAIN LEAD. SEE SPECIAL PROVISIONS.
29. SURCHARGING TREATMENT OF THE FOUNDATION SOILS PRIOR TO INSTALLATION OF PILES IS REQUIRED. FOR SURCHARGE TREATMENT AND GEOTECHNICAL INSTRUMENTATION SEE SHEET BR4.
30. AT ABUTMENT NO. 2, PAYMENT FOR GRANULAR BORROW USED AS SURCHARGE MATERIAL SHALL BE MADE UNDER ITEM 204.3. PAYMENT FOR THE REMOVAL OF SURCHARGE MATERIAL SHALL BE MADE UNDER ITEM 203.15.
31. THE CHARPY V-NOTCH TEST IS REQUIRED FOR MEMBERS DESIGNATED AS SUCH AND ONLY FOR SUCH MEMBERS, AS SPECIFIED IN SECTION 714.01.

## FINAL HYDRAULICS REPORT

Metric

### HYDROLOGIC DATA

DRAINAGE AREA= 22 015 HECTARE
CHARACTER OF TERRAIN: GENTLY ROLLING HILLS WITH SOME AREAS OF FLAT LAND
CHARACTER & TYPE OF STREAM: PERENNIAL STREAM, THE CHANNEL IS RELATIVELY SHALLOW AND MEANDERING WITH MODERATE TO SLOW FLOWAGE OVER GRAVELLY RAPIDS
NATURE OF STREAMBED: GRAVEL MATERIAL

Q2.33= 73.6 CMS  Q50= 277.5 CMS
Q10= 147.2 CMS  Q100= 344.0 CMS
Q25= 215.2 CMS  Q500= 481.4 CMS

DATE OF FLOOD OF RECORD: NOT AVAILABLE
WATER SURFACE ELEV.: _____ ESTIMATED DISCHARGE: _____
NATURAL STREAM VELOCITY @ Q _____
ICE CONDITIONS: MODERATE DEBRIS: MODERATE
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? _____
IS ORDINARY RISE RAPID? _____
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO
IF YES, DESCRIBE. _____

WATERSHED STORAGE ____ HEADWATERS ____ UNIFORM THROUGHOUT WATERSHED X
IMMEDIATELY ABOVE SITE ____

### EXISTING STRUCTURE

STRUCTURE TYPE: TWO-SPAN STEEL ROLLED BEAM YEAR BUILT: 1940'S
CLEAR SPAN (NORMAL TO STREAM): 32.000 ±
VERTICAL CLEARANCE ABOVE STREAMBED: 4.300 ±
WATERWAY OF FULL OPENING: 110.7 SQUARE METERS
DISPOSITION OF STRUCTURE: NORMAL TO FLOW

TYPE OF MATERIAL UNDER SUBSTRUCTURE: UNKNOWN

WATER SURFACE ELEV. @ Q2.33= 125.550 VELOCITY= 1.47 MPS
Q10= 126.330 " 2.03 MPS
Q25= 126.720 " 2.55 MPS
Q50= 126.880 " 3.08 MPS
Q100= 127.680 " 1.98 MPS

LONG TERM STREAM BED CHANGES: MINOR LATERAL MIGRATION OF STREAM PRESENT

IS THE ROADWAY OVERTOPPED BELOW THE Q100? YES FREQUENCY: Q50
RELIEF ELEVATION: 126.600 DISCHARGE OVER ROAD @ Q100= 140.2 CMS

UPSTREAM STRUCTURE: TOWN: ENOSBURG DISTANCE: 20 440
HIGHWAY NO.: TH17 STRUCTURE NO.: _____
STRUCTURE TYPE: COVERED BRIDGE
CLEAR SPAN= 27.700 CLEAR HEIGHT= 4.100
YEAR BUILT= 1875 FULL WATERWAY= 89.3 SQUARE METERS

DOWNSTREAM STRUCTURE: TOWN: _____ DISTANCE: _____
HIGHWAY NO.: _____ STRUCTURE NO.: _____
STRUCTURE TYPE: _____
CLEAR SPAN: _____ CLEAR HEIGHT: _____
YEAR BUILT: _____ FULL WATERWAY: _____

### PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN COMPOSITE PLATE GIRDER

CLEAR SPAN (NORMAL TO STREAM): 43.200
VERTICAL CLEARANCE ABOVE STREAMBED: 4.100
WATERWAY OF FULL OPENING: 155 SQUARE METERS

WATER SURFACE ELEV. @ Q2.33= 125.660 VELOCITY= 1.18 MPS
Q10= 126.520 " = 1.52 MPS
Q25= 127.020 " = 1.79 MPS
Q50= 127.320 " = 1.99 MPS
Q100= 127.710 " = 1.97 MPS

IS THE ROADWAY OVERTOPPED BELOW THE Q100? YES FREQUENCY: Q50
RELIEF ELEVATION: 126.700 DISCHARGE OVER ROAD @ Q100= 53.8 CMS

*AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 127.870
VERTICAL CLEARANCE @ Q100 = 0.160

SCOUR: PROTECTION AT ABUTMENTS REQUIRED
REQUIRED CHANNEL PROTECTION: TYPE IV STONE FILL
*MINIMUM ELEVATION OF BRIDGE AT WEST ABUTMENT = 127.50.

### PERMIT INFORMATION

AVERAGE DAILY FLOW: 4.96 CMS
ORDINARY LOW WATER: 2.24 CMS DEPTH: 0.910
ORDINARY HIGH WATER: 30.38 CMS DEPTH: 1.520

### ADDITIONAL COMMENTS

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 44.000 METERS
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL _____ ON LEDGE 500 kPa
4. ULTIMATE LOAD FOR PILING 2600 KN TYPE HP 360 X 108 ESTIMATED LENGTH 19 000
5. STRUCTURAL STEEL AASHTO GRADE M 270M GRADE 345W
6. REINFORCING STEEL GRADE 420
7. CONCRETE CLASS A $f'_c$ = 30 MPa (HPC-A)
   CONCRETE CLASS B $f'_c$ = 25 MPa (HPC-B)
   CONCRETE CLASS C $f'_c$ = 20 MPa

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE X OR ON TEMPORARY BRIDGE _____
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY _____ TRAFFIC CONTROL SIGNALS REQUIRED _____
   MINIMUM CLEAR SPAN (NORMAL TO STREAM): _____ VERTICAL CLEARANCE ABOVE STREAMBED: _____
   WATERWAY OF FULL OPENING: _____
   ARE SIDEWALKS REQUIRED? _____ IF SO, ON WHAT SIDE? _____
   STRUCTURE TYPE: _____

### LOAD FACTOR LOAD RATING (TONS)

| LOADING LEVELS (LOAD FACTOR) | TRUCK | | | | | | |
|---|---|---|---|---|---|---|---|
| | M | MS | 3S2 | 6 AXLE | 3A. STR. | 4A. STR. | 5A. SEMI |
| INVENTORY A=2.17; B=1.00 | 40 | 42 | | | | | |
| POSTED A=1.55; B=1.40 | 56 | 60 | 68 | | 57 | 59 | 63 |
| OPERATING A=1.30; B=1.67 | | 71 | 82 | 86 | 68 | 70 | |

STRENGTH RF= $\frac{\phi M_N - 1.3\,M_{DL}}{A \times M_{LL+I}}$  SERVICEABILITY RF= $B\left[\frac{.95\,F_y S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SDL}}}{1.67\,M_{LL+I}}\right]$

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| PRELIMINARY INFORMATION SHEET | |
| Designed By S.JOHNSON | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9\4562\zf184mpl.dgn | IPARM:zf184mpl.I |
| Bridge Sheet No. BR1 | Sheet 40 of 140 |

78f184/zf184PI

# BRIDGE QUANTITY SHEET

Metric

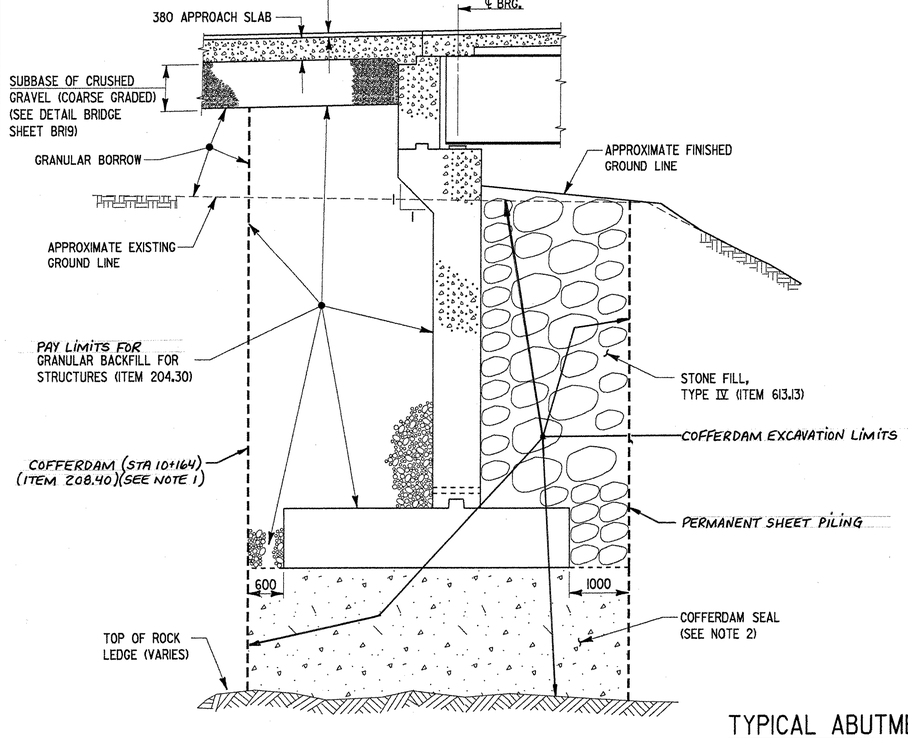
| ITEM NO. | ITEM | UNIT | QUANTITY BREAKDOWN: SUPER STRUCT | ABUT NO 1 | ABUT NO 2 | APPR SLAB 1 | APPR SLAB 2 | CHANNEL | TOTAL | FINAL |
|---|---|---|---|---|---|---|---|---|---|---|
| 204.30 | GRANULAR BACKFILL FOR STRUCTURES | $m^3$ | | 280 | 580 | | | | 860 | |
| 208.30 | COFFERDAM EXCAVATION, EARTH | $m^3$ | | 708 | 427 | | | | 1135 | |
| 208.35 | COFFERDAM EXCAVATION, ROCK | $m^3$ | | 50 | 50 | | | | 100 | |
| 208.40 | COFFERDAM (STA 10+164) | LS | | 1 | | | | | 1 | |
| 208.40 | COFFERDAM (STA 10+208) | LS | | | 1 | | | | 1 | |
| 404.65 | EMULSIFIED ASPHALT | kg | 35 | | | 5 | 5 | | 45 | |
| 490.30 | SUPERPAVE BITUMINOUS CONC. PAV'T. (PG 58-34) | ton | 67 | | | 10 | 10 | | 87 *<br>(* ROADWAY QUANTITY) | |
| 501.33 | CONCRETE, CLASS A (HPC-A) | $m^3$ | 128 | | 2 | | | | 130 | |
| 501.34 | CONCRETE, CLASS B (HPC-B) | $m^3$ | | 176 | 217 | 22 | 22 | | 437 | |
| 501.30 | CONCRETE, CLASS C | $m^3$ | | 390 | | | | | 390 | |
| 504.1 | FURNISHING EQUIPMENT FOR DRIVING PILING | LS | | | 1 | | | | 1 | |
| 505.17 | STEEL PILING (HP 360 X 108) | m | | | 690 | | | | 690 | |
| 506.55 | STRUCTURAL STEEL (PLATE GIRDER) | kg | 87 400 | | | | | | 87,400 | |
| 507.15 | REINFORCING STEEL | kg | | 11,143 | 15,657 | | | | 26,800 | |
| 507.17 | EPOXY COATED REINFORCING STEEL | kg | 15 506 | | 211 | 1496 | 1587 | | 18,800 | |
| 508.15 | SHEAR CONNECTORS (1335 - 22 DIA X 175 LONG) | LS | 1 | | | | | | 1 | |
| 513.25 | STRUCTURAL PAINTING, SHOP APPLIED | LS | 1 | | | | | | 1 | |
| 513.40 | SURFACE PREPARATION, SHOP | LS | 1 | | | | | | 1 | |
| 514.10 | WATER REPELLENT | liter | 18 | 13 | 29 | | | | 60 | |
| 516.10 | BRIDGE EXPANSION JOINT | m | 10.5 | | | | | | 10.5 | |
| 519.20 | SHEET MEMBRANE WATERPROOFING (TORCH APPLIED) | $m^2$ | 421 | | | 57 | 57 | | 535 | |
| 525.33 | BRIDGE RAILING - NETC 2 RAIL | m | 105 | | | | | | 105 | |
| 527.10 | MAINTENANCE OF TRAFFIC FOR BRIDGE PROJECTS | LS | 1 | | | | | | 1 | |
| 529.10 | REMOVAL OF BRIDGE PAVEMENT | $m^2$ | 230 | | | | | | 230 | |
| 529.20 | PARTIAL REMOVAL OF STRUCTURE | EA | 0.5 | | | | | 0.5 | 1 | |
| 531.10 | BEARING DEVICE ASSEMBLY | EA | 10 | | | | | | 10 | |
| 613.13 | STONE FILL, TYPE IV | $m^3$ | | 326 | 437 | | | | 763 | |
| 623.21 | SETTLEMENT PLATFORM, TYPE I | EA | | | 2 | | | | 2 | |
| 623.23 | SETTLEMENT PLATFORM, VIBRATING WIRE | EA | | | 3 | | | | 3 | |
| 623.40 | PIEZOMETER, VIBRATING WIRE | EA | | | 3 | | | | 3 | |
| 649.31 | GEOTEXTILE UNDER STONE FILL | $m^2$ | | 9 | 26 | | | | 35 | |

BRIDGE(S) AT STATION(S) _____
LOCATION(S) VT. ROUTE 118 OVER TROUT RIVER

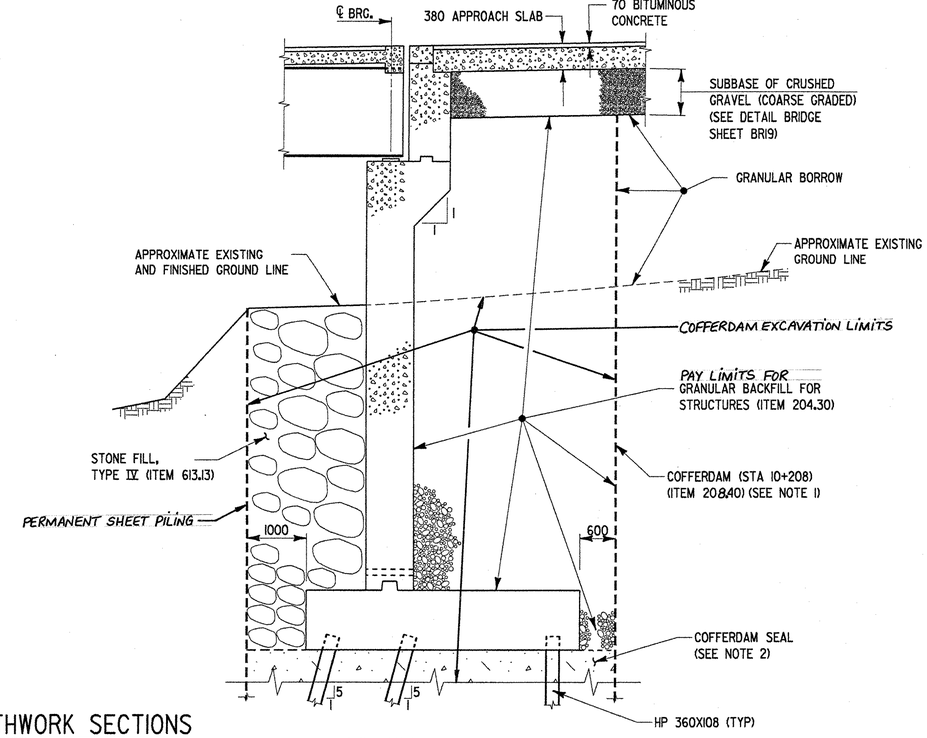
PREPARED BY: _____ CHECKED BY: _____
SUPERVISOR: _____

PROJECT: BERKSHIRE PROJECT NO: BDF-RS 0283(7)
BRIDGE SHEET NO: BR2 OF _____ SHEET NO: 41 OF 140

78f184/zf184BQS




ABUTMENT NO. 1

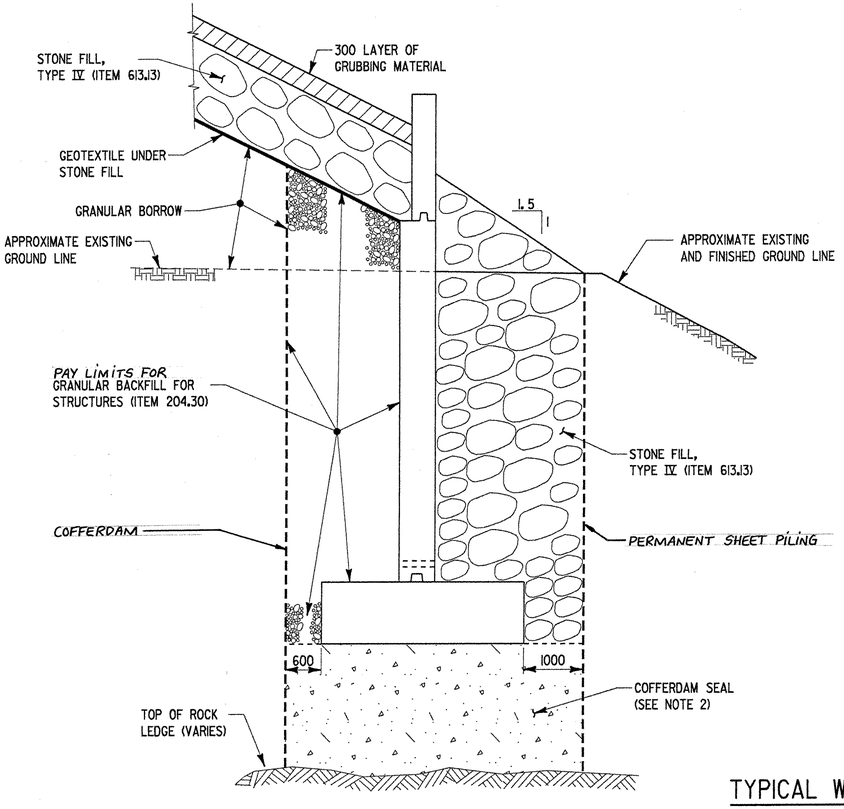



ABUTMENT NO. 2

## TYPICAL ABUTMENT EARTHWORK SECTIONS

0 1 2 3 4 5

SCALE 1:50

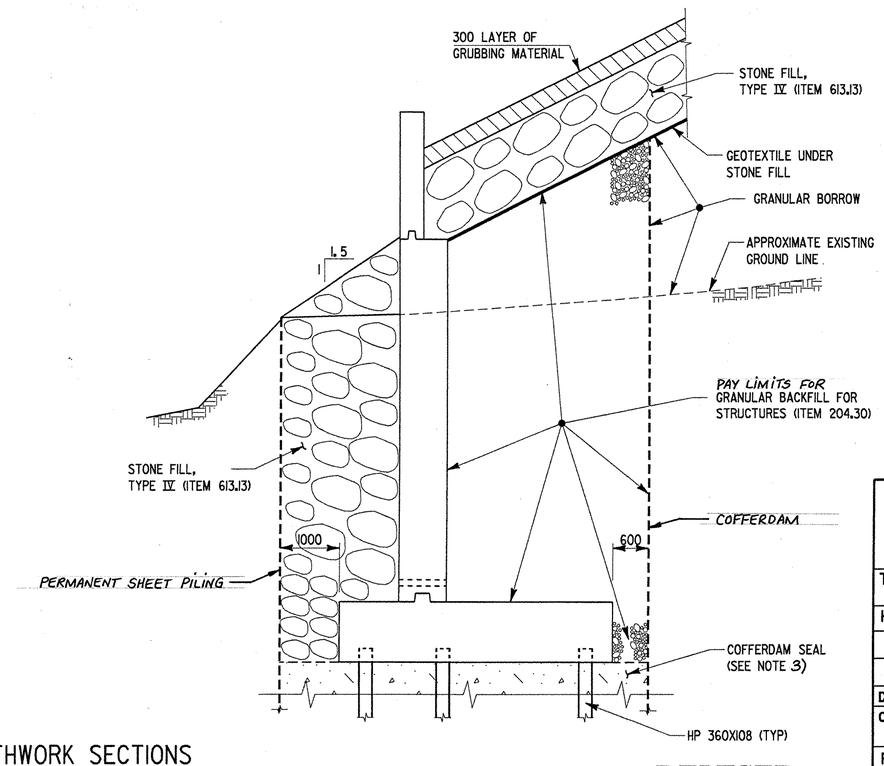



WINGWALL NO. 1 & NO. 2

## TYPICAL WINGWALL EARTHWORK SECTIONS

0 1 2 3 4 5

SCALE 1:50




WINGWALL NO. 3 & NO. 4

REVISED
NOV 10 2003

**NOTES:**

1. SEE BRIDGE SHEET BR11 FOR COFFERDAM LIMITS AND CONFIGURATION.
2. A COFFERDAM SEAL WIL BE REQUIRED AT ABUTMENT 1. THE SEAL SHALL EXTEND TO THE BEDROCK AND THE COST OF THE SEAL SHALL BE PAID FOR UNDER CONCRETE, CLASS C – ITEM 501.30. PRIOR TO PLACING THE SEAL , ALL LOOSE MATERILA SHALL BE REMOVED FROM THE BEDROCK SERFACE. AFTER PLACING THE SEAL AT ABUTMENT 1, THE SEAL SHALL BE CORED TO BEDROCK AT TWO LOCATIONS AS DETERMINED BY THE ENGINEER TO VERIFY THE INTERGRTY OF THE SEAL. COST OF THE CORES SHALL BE INCLUDED IN ITEM 501.30.
3. REQUIREMENTS FOR A COFFERDAM SEAL AT ABUTMENT 2 SHALL BE DETERMINED BY THE CONTRACTOR AND DESIGNED IN ACCORDANCE WITH SPECIFICATION 208.07. THE COST OF THE A SEAL AT ABUTMENT 2 SHALL BE INCLUDED IN COFFERDAM (10+208) ITEM 208.40.
4. SEE BRIDGE SHEET BR4 FOR SURCHAGE REQUIREMENTS AT ABUTMENT 2.

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| TYPICAL ABUTMENT AND WINGWALL SECTIONS | |
| Designed By S.JOHNSON | Drawn By S.DELIA |
| Checked By S.JOHNSON | Date 02/00 |
| Bridge Design Supervisor | Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9\4562\zf184dty.dgn | \PARM:zf184dty.j |
| Bridge Sheet No. BR3 | Sheet 42 of 140 |

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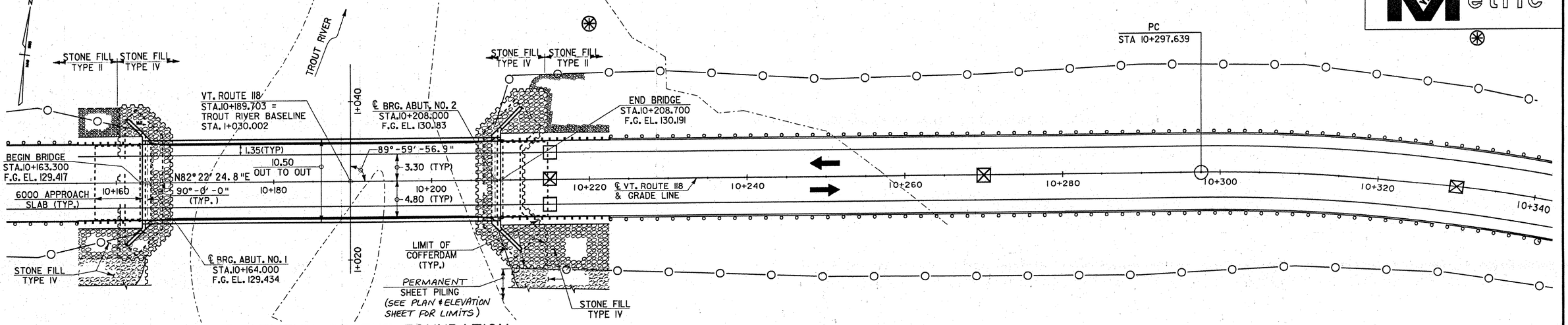


## SURCHARGE TREATMENT OF THE FOUNDATION

1. LIMITS OF SURCHARGE:
FULL HEIGHT SURCHARGE FILL SHALL BE PLACED BETWEEN STATIONS 10+208.000 TO 10+270.000 AND LEFT IN PLACE FOR THE DURATION STATED IN NOTE 3 BELOW.

THE REMAINDER OF THE ROADWAY EMBANKMENT WILL NOT REQUIRE SURCHARGE LOADING, BUT THE EMBANKMENT MUST BE CONSTRUCTED TO AT LEAST THE ELEVATION OF THE BOTTOM OF THE SAND LAYER AND BE LEFT IN PLACE FOR 90 DAYS PRIOR TO PAVING.

2. SURCHARGE CROSS SECTION:
THE FINAL EMBANKMENT AND STONE FILL SHALL BE PLACED TO THE BOTTOM OF THE ROADWAY SAND COURSE PER THE CONTRACT CROSS SECTIONS. SURCHARGE MATERIAL SHALL BE PLACED ABOVE THIS LEVEL TO THE LEVEL OF THE FINAL ROADWAY ELEVATION AT CENTERLINE AND GRADED AT A 2% NORMAL CROSS SLOPE (SEE SECTION THIS SHEET). THE COFFERDAM AT ABUTMENT 2 MAY NEED TO BE EXTENDED ABOVE THE EXISTING GROUND IN ORDER TO ATTAIN FULL SURCHARGE AT STATION 10+208.000 (SEE SECTION THIS SHEET). COSTS ASSOCIATED WITH INCREASING THE COFFERDAM HEIGHT OR RETAINING THE SURCHARGE AT ABUTMENT 2 SHALL BE INCLUDED IN THE COFFERDAM ITEM AT THAT LOCATION.

3. DURATION OF THE SURCHARGE LOAD:
SURCHARGE LOADING SHALL BE MAINTAINED FOR 142 DAYS OR UNTIL THE IN-SITU GEOTECHNICAL INSTRUMENTATION INDICATES THAT THE SETTLEMENT HAS REACHED THE ANTICIPATED SETTLEMENT SHOWN IN NOTE 4. THE CONTRACTOR MAY, AT HIS OPTION, CONSTRUCT THE SURCHARGE 1.5 METERS HIGHER THAN THE CROSS SECTION SPECIFIED AND MAINTAIN THIS LOAD FOR 92 DAYS; HOWEVER, NO ADDITIONAL PAYMENT SHALL BE MADE FOR PROVIDING, PLACING, OR REMOVING THE ADDITIONAL SURCHARGE MATERIAL.

4. MAGNITUDE OF SETTLEMENT:
THE MAXIMUM AMOUNT OF SETTLEMENT IS ANTICIPATED TO BE 0.2 METERS. IT IS ANTICIPATED THAT 80% OF THIS SETTLEMENT WILL OCCUR DURING THE SURCHARGE PERIOD STATED ABOVE. THE SURCHARGE PERIOD MAY CEASE AFTER 0.16 METERS OF SETTLEMENT HAS OCCURRED.

5. MONITORING/SETTLEMENT INSTRUMENTATION:
REGUARDLESS OF WHETHER OR NOT SURCHARGE IS USED, THE SETTLEMENT OF THE FOUNDATION WILL BE MONITORED USING TYPE I AND VIBRATING WIRE SETTLEMENT PLATFORMS INSTALLED ON THE NATURAL GRADE, AS WELL AS WITH THE USE OF PIEZOMETERS INSTALLED AT 4.5 METERS BELOW THE GROUND SURFACE. THE DESIGNATED LOCATIONS FOR THESE ITEMS ARE SHOWN ABOVE. BOTH SETTLEMENT PLATFORMS SHALL MEET THE GUIDELINES SPECIFIED IN STANDARD SHEETS L-1M AND L-2M RESPECTIVELY AND SECTION 623 OF THE SPECIAL PROVISIONS.

PORE PRESSURES SHALL BE MONITORED DAILY DURING FILL PLACEMENT AND IMMEDIATELY FOLLOWING THE COMPLETION OF EACH VERTICAL INCREMENT OF 0.6 METERS. RECORDS OF PIEZOMETER READINGS ALONG WITH FILL ELEVATIONS AT EACH PIEZOMETER LOCATION SHALL BE RECORDED WHENEVER THE MEASUREMENTS ARE MADE AND GIVEN TO THE ENGINEER ON A WEEKLY BASIS. IF PORES PRESSURES EXCEED 58.6 kPA, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY AND EMBANKMENT CONSTRUCTION HALTED UNTIL EXCESS PORE PRESSURES HAVE DISSIPATED BELOW 58.6 kPA OR, THE ENGINEER CAN EVALUATE THE STABILITY OF THE SLOPE USING THE APPROPRIATE MEANS.

FOR DETAILS OF SETTLEMENT PLATFORM, TYPE I, SEE STANDARD SHEET L-1M, FOR VIBRATING WIRE SETTLEMENT PLATFORM, SEE STANDARD SHEET L-2M.

THE FOLLOWING SETTLEMENT PLATFORM READINGS SHALL BE RECORDED AND PROVIDED TO THE ENGINEER: (FILL ELEVATIONS SHALL BE RECORDED WHENEVER READINGS ARE TAKEN)

a. INITIAL READINGS AT ALL SETTLEMENT PLATFORMS BEFORE ANY EMBANKMENT OR SURCHARGE LOAD IS APPLIED.
b. SETTLEMENT PLATFORM, TYPE I: SETTLEMENT READINGS SHALL BE TAKEN ONCE A DAY DURING EMBANKMENT OR SURCHARGE PLACEMENT OPERATIONS.
c. SETTLEMENT PLATFORM, VIBRATING WIRE: SETTLEMENT READINGS SHALL BE TAKEN FOR EVERY 600 TO 900 mm OF EMBANKMENT PLACED DURING SURCHARGE OPERATION.
d. UPON COMPLETION OF SURCHARGE PLACEMENT OPERATIONS, SETTLEMENT PLATFORM READINGS SHALL BE TAKEN ONCE EVERY OTHER DAY FOR THE DURATION OF THE SURCHARGE TREATMENT. (TYPICAL FOR BOTH TYPES).

6. DRIVING PILES:
STEEL PILES FOR THE ABUTMENT 2 FOUNDATION SHALL NOT BE DRIVEN UNTIL 80% OF THE MAXIMUM ANTICIPATED SETTLEMENT STATED IN NOTE 4 IS REACHED.

## GEOTECHNICAL INSTRUMENTATION

THIS WORK CONSISTS OF THE FURNISHING, INSTALLING, MAINTAINING SETTLEMENT PLATFORMS AND COLLECTING DATA. THIS INSTRUMENTATION WILL FOLLOW THE GUIDELINES SPECIFIED IN SECTION 623 OF THE SPECIAL PROVISIONS.

## SETTLEMENT INSTRUMENTATION PLAN

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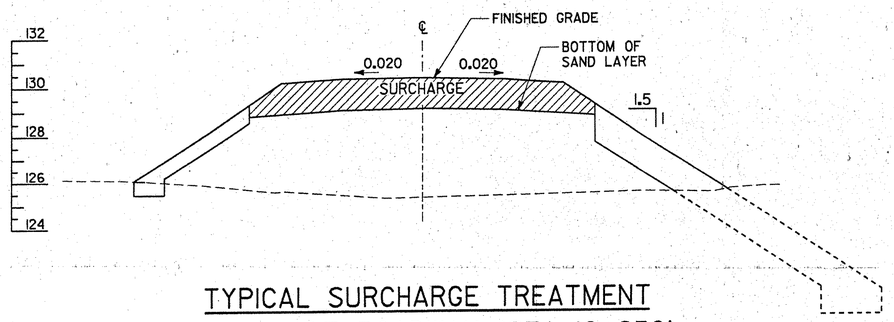
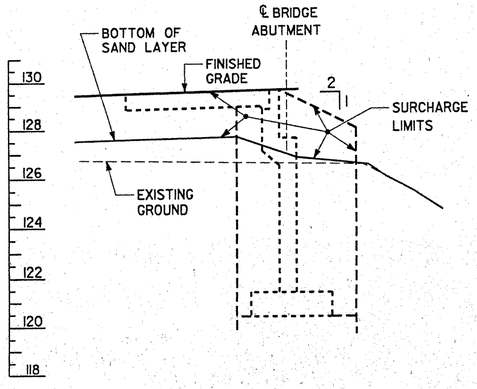
SCALE: 1:250




## TYPICAL SURCHARGE TREATMENT SECTION AT ROADWAY (STA 10+250)

NOT TO SCALE




## TYPICAL SURCHARGE TREATMENT SECTION AT ABUTMENT 2

NOT TO SCALE

## SETTLEMENT PLATFORM, TYPE I - LOCATION

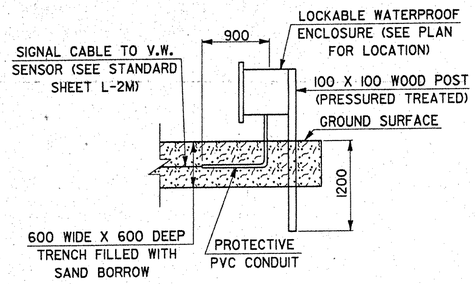
| STATION | OFFSET |
|---|---|
| 10+215 | 3.30 m Lt. |
| 10+215 | 3.30 m Rt. |

## SETTLEMENT PLATFORM, VIBRATING WIRE & PIEZOMETER - LOCATION

| STATION | OFFSET |
|---|---|
| 10+215 | CENTERLINE |
| 10+270 | CENTERLINE |
| 10+330 | CENTERLINE |

## LEGEND

- ☐ SETTLEMENT PLATFORM, TYPE I
- ☒ SETTLEMENT PLATFORM, VIBRATING WIRE, & APPROXIMATE PIEZOMETER LOCATION
- ⊛ APPROXIMATE READOUT BOX LOCATION STA 10+330, 19.000 LT AND STA 10+220, 19.000 LT PROTECT READOUT BOXES WITH BOLLARDS (SEE STANDARD SHEET L-2M). COST INCIDENTAL TO ITEM 623.23




## READOUT BOX DETAIL

NOT TO SCALE

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| SETTLEMENT INSTRUMENTATION PLAN | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J91\4562\zf184spl.dgn | IPAR\zf184spl.J |
| Bridge Sheet No. BR4 | Sheet 43 of 140 |

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## SOIL CLASSIFICATION

| AASHTO | |
|---|---|
| A1 | Gravel and Sand |
| A3 | Fine Sand |
| A2 | Silty or Clayey Gravel and Sand |
| A4 | Silty Soil - Low Compressibility |
| A5 | Silty Soil - Highly Compressible |
| A6 | Clayey Soil - Low Compressibility |
| A7 | Clayey Soil - Highly Compressible |

## ROCK QUALITY DESIGNATION

| R.Q.D. (%) | ROCK DESCRIPTION |
|---|---|
| <25 | Very Poor |
| 25 to 50 | Poor |
| 51 to 75 | Fair |
| 76 to 90 | Good |
| >90 | Excellent |

## SHEAR STRENGTH

| UNDRAINED SHEAR STRENGTH IN kPa | CONSISTENCY |
|---|---|
| <12 | Very Soft |
| 12-24 | Soft |
| 24-48 | Med. Stiff |
| 48-96 | Stiff |
| 96-192 | Very Stiff |
| >192 | Hard |

## CORRELATION GUIDE OF "N" TO DENSITY/CONSISTENCY

| DENSITY (GRANULAR SOILS) | | CONSISTENCY (COHESIVE SOILS) | |
|---|---|---|---|
| N | DESCRIPTIVE TERM | N | DESCRIPTIVE TERM |
| <5 | Very Loose | <2 | Very Soft |
| 5-10 | Loose | 2-4 | Soft |
| 11-24 | Med. Dense | 5-8 | Med. Stiff |
| 25-50 | Dense | 9-15 | Stiff |
| >50 | Very Dense | 16-30 | Very Stiff |
| | | 31-60 | Hard |
| | | >60 | Very Hard |

## COMMONLY USED SYMBOLS

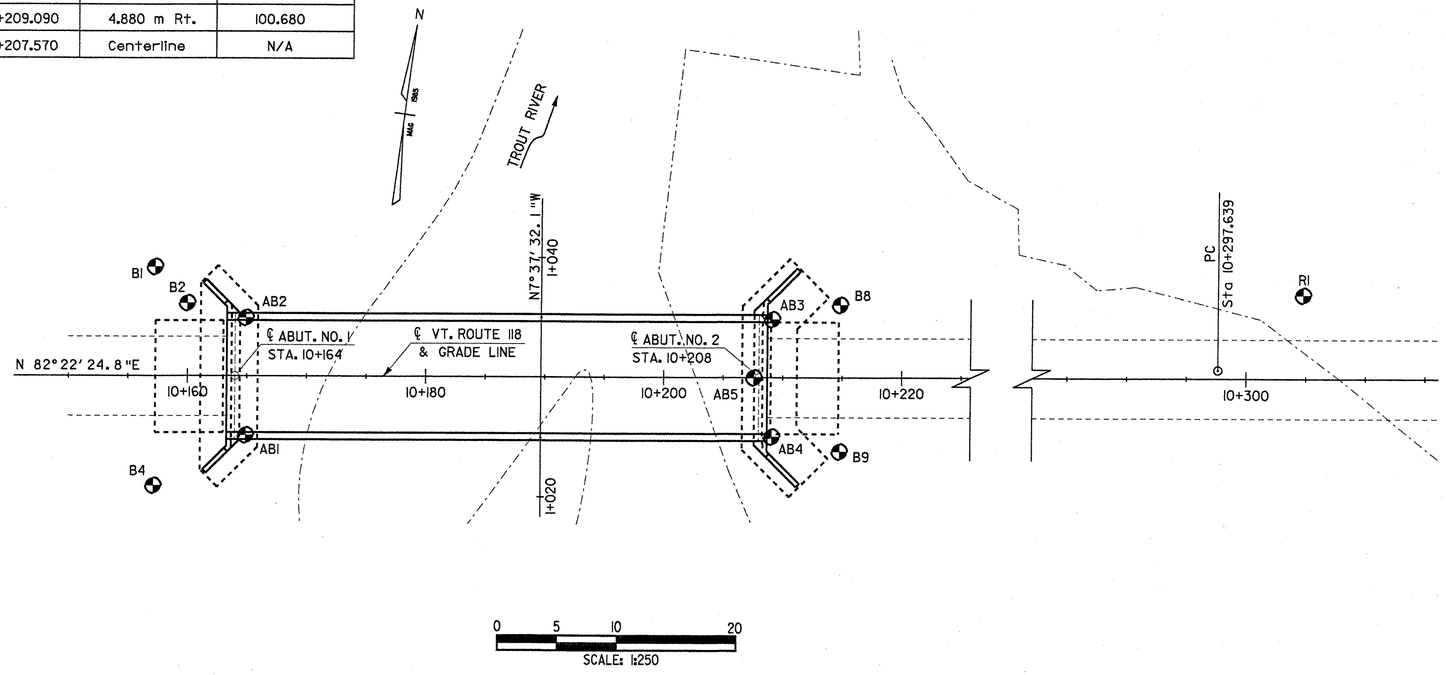
| | |
|---|---|
| ▼ | Water Elevation |
| ⊕ | Standard Penetration Boring |
| ⊕ | Auger Boring |
| ⊙ | Rod Sounding |
| S | Sample |
| N | Standard Penetration Test Blow Count Per 300 mm For: 50.8 mm O.D. Sampler 35.0 mm I.D. Sampler Hammer Weight Of 63.5 kg. Hammer Fall Of 762 mm |
| VS | Field Vane Shear Test |
| US | Undisturbed Soil Sample |
| B | Blast |
| DC | Diamond Core |
| MD | Mud Drill |
| WA | Wash Ahead |
| HSA | Hollow Stem Auger |
| AX | Core Size 30.1mm |
| BX | Core Size 42.0 mm |
| NX | Core Size 54.7 mm |
| M | Double Tube Core Barrel Used |
| LL | Liquid Limit |
| PL | Plastic Limit |
| PI | Plasticity Index |
| NP | Non Plastic |
| w | Moisture Content (Dry Wgt. Basis) |
| D | Dry |
| M | Moist |
| MTW | Moist To Wet |
| W | Wet |
| Sat | Saturated |
| Bo | Boulder |
| Gr | Gravel |
| Sa | Sand |
| Si | Silt |
| Cl | Clay |
| HP | Hardpan |
| Le | Ledge |
| NLTD | No Ledge To Depth |
| CNPF | Can Not Penetrate Further |
| TLOB | To Ledge Or Boulder |
| NR | No Recovery |
| Rec. | Recovery |
| %Rec. | Percent Recovery |
| ROD | Rock Quality Designation |
| CBR | California Bearing Ratio |
| < | Less Than |
| > | Greater Than |
| R | Refusal (N > 100) |

### COLOR

| | | | |
|---|---|---|---|
| blk | Black | pnk | Pink |
| bl | Blue | pu | Purple |
| brn | Brown | rd | Red |
| dk | Dark | tn | Tan |
| gry | Gray | wh | White |
| gn | Green | yel | Yellow |
| lt | Light | mltc | Multicolored |
| or | Orange | | |

## STANDARD PENETRATION BORINGS

| BORING NO. | STATION | OFFSET | BEDROCK ELEVATION |
|---|---|---|---|
| BI | 10+157.270 | 9.140 m Lt. | 116.030 |
| B2 | 10+160.020 | 6.100 m Lt. | 118.190 |
| B4 | 10+157.270 | 9.140 m Rt. | 115.850 |
| B8 | 10+214.880 | 6.100 m Lt. | 102.830 |
| B9 | 10+214.880 | 6.100 m Rt. | 100.390 |
| RI | 10+304.800 | 7.010 m Lt. | N/A |
| AB1 | 10+164.900 | 4.880 m Rt. | 117.670 |
| AB2 | 10+164.900 | 4.880 m Lt. | 118.910 |
| AB3 | 10+209.090 | 4.880 m Lt. | 105.620 |
| AB4 | 10+209.090 | 4.880 m Rt. | 100.680 |
| AB5 | 10+207.570 | Centerline | N/A |




STANDARD PENETRATION BORING

## DEFINITIONS (AASHTO)

**BEDROCK (LEDGE)** - Rock in its native location of indefinite thickness.

**BOULDER** - A rock fragment with an average dimension > 304.8 mm.

**COBBLE** - Rock fragments with an average dimension between 76.2 and 304.8 mm.

**GRAVEL** - Rounded particles of rock < 76.2 mm and > 2 mm (#10 sieve).

**SAND** - Particles of rock < 2 mm (#10 sieve) and > 75 μm (#200 sieve).

**SILT** - Soil < 75 μm (#200 sieve), non or slightly plastic and exhibits no strength when air-dried.

**CLAY** - Fine grained soil, exhibits plasticity when moist and considerable strength when air-dried.

**VARVED** - Alternate layers of silt and clay.

**HARDPAN** - Extremely dense soil, cemented layer, not softened when wet.

**MUCK** - Soft organic soil (containing > 10% organic material.

**MOISTURE CONTENT** - Weight of water divided by dry weight of soil.

**FLOWING SAND** - Granular soil so saturated (loose) that it flows into drill casing during extraction of wash rod.

**STRIKE** - Angle from magnetic north to line of intersection of bed with a horizontal plane.

**DIP** - Inclination of bed with a horizontal plane.

## GENERAL NOTES

1. The subsurface explorations shown herein were made between 11/16/94 and 03/03/95 by the Agency.
2. Soil and rock classifications, properties and descriptions are based on engineering interpretation from available subsurface information by the Agency and may not necessarily reflect actual variations in subsurface conditions that may be encountered between individual boring or sample locations.
3. Observed water levels and/or conditions indicated are as recorded at the time of exploration and may vary according to the prevailing rainfall, methods of exploration and other factors.
4. Engineering judgement was exercised in preparing the subsurface information presented herein. Analysis and interpretation of subsurface data was performed and interpreted for Agency design and estimating purposes. Presentation of the information in the Contract is intended to provide the Contractor access to the same data available to the Agency. The subsurface information is presented in good faith and is not intended as a substitute for personal investigation, independent interpretation, independent analysis or judgement by the Contractor.
5. Pictorial structure details shown on the boring plan layout or soils profile are for illustrative purposes only and may not accurately portray final contract details.
6. Terminology used on boring logs to describe the hardness, degree of weathering, and spacing of fractures, joints and other discontinuities in the bedrock is defined in the AASHTO Manual on Subsurface Investigations, 1988.

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| BORING INFORMATION SHEET | |
| Designed By VAOT | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9\4562\zf184bpl.dgn | IPARM:zf184bpl.J |
| Bridge Sheet No. BR5 | Sheet 44 of 140 |

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Metric

BORINGS ARE IN ENGLISH UNITS WITH THE EXCEPTION OF THE METRIC ELEVATION COLUMN ON THE FAR LEFT OF EACH BORING LOG.

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-1
SHEET 1 OF 1
DATE STARTED: 11/15/94
DATE COMPLETED: 11/16/94

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 105+16.00
GROUND EL.: 414.68

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: -30.00
G.W. DEPTH: 13

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: MCGLYNN

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

BOT. OF FOOTING ELEVATION 120.4

| METERS | DEPTH | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| 126.395 | | | | | | | | | |
| 125 | 5 | No Rec., Stone at end of sampler | 2 | | | | | | |
| 11/16/94 ▼ | 10 | A-1-b, SaGr, br, Moist, Rec.= 0.7' | 40 | 7.1 | 51.8 | 29.2 | 19 | | |
| | 15 | A-3, Sa, br, Moist, Rec.= 0.1' | 21 | 20.8 | 4.8 | 86.6 | 8.6 | | |
| 120 | 20 | A-4, SI, gr, MTW, Rec.= 1.3' | 8 | 29.8 | 5.4 | 6.1 | 88.5 | | |
| | 25 | No Rec., Stone in end of sampler., SI & few STS | 15 | | | | | | |
| | 30 | A-1-b, SaGr, Moist, Soft rock | 25 | 9.8 | 54.3 | 26.1 | 19.6 | | |
| | | | Top of bedrock @ 34.0' | | | | | | |
| | 35 | Run 1: BXMDC, 34.0'-39.0', Rec.= 4.5', See Geologist's Report. | Dip (d) 30 | REC % 90 | ROD % 50 | | | | |
| 115 | 40 | Run 2: BXMDC, 39.0'-44.0', Rec.= 3.7', See Geologist's Report. | 70-90 | 74 | 58 | | | | |
| | 45 | | Hole stopped @ 44.0' | | | | | | |
| | | Geologist's Report | | | | | | | |
| 110 | 50 | Run #1: The core consists of quartz - sericite - chlorite phyllite with abundant lenses of quartz. The rock is hard to moderately hard, unweathered, and competent. | | | | | | | |
| | 55 | 0.5' not recovered. | | | | | | | |
| 105 | 60 | | | | | | | | |
| | 65 | Run #2 : Same as Run #1. | | | | | | | |
| | 70 | 1.3' not recovered | | | | | | | |
| 100 | 75 | | | | | | | | |
| | 80 | | | | | | | | |
| | 85 | | | | | | | | |
| | 90 | | | | | | | | |
| | 95 | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-2
SHEET 1 OF 1
DATE STARTED: 11/21/94
DATE COMPLETED: 11/22/94

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 105+25.00
GROUND EL.: 415.28

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: -20.00
G.W. DEPTH: 12

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: MCGLYNN

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

BOT. OF FOOTING ELEVATION 120.4

| METERS | DEPTH | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| 126.577 | | | | | | | | | |
| 125 | 5 | A-4, SISa, MTW, br, Rec.= 0.4' | 5 | 37.9 | 3.1 | 50.6 | 46.3 | | |
| 11/22/94 ▼ | 10 | A-1-a, SaGr, MTW, br, Rec.= 0.6' | 30 | 8.8 | 61.7 | 29.5 | 8.8 | | |
| | 15 | No Rec. | 16 | | | | | | |
| 120 | 20 | A-4, SI, Wet, gr, Rec.= 1.0' | 6 | 20.5 | 0.6 | 10.2 | 89.2 | | |
| | 25 | A-2-4, SISa, Wet, gr, Rec.= 0.4' | 9 | 15.8 | 2 | 66.1 | 31.9 | | |
| | | | Top of bedrock @ 27.5' | | | | | | |
| | 30 | A-2-4, SISa, Wet, gr, Rec.= 0.4' | Dip (d) 30-70 | REC % 70 | ROD % 32 | | | | |
| | 35 | Run 1: BXMDC, 27.5'-32.5', Rec.= 3.5', See Geologist's Report. | | 100 | 92 | | | | |
| 115 | 40 | Run 2: BXMDC, 32.5'-37.5', Rec.= 5.0', See Geologist's Report. | Hole stopped @ 37.5' | | | | | | |
| | 45 | | | | | | | | |
| | | Geologist's Report | | | | | | | |
| 110 | 50 | Run #1: Core consists of quartz, sericite, and chlorite phyllite. The core has abundant lenses of quartz. The rock is moderately hard to hard, unweathered, and competent. | | | | | | | |
| | 55 | 1.5' not recovered | | | | | | | |
| 105 | 60 | | | | | | | | |
| | 65 | Run #2 ; Same as Run #1. | | | | | | | |
| | 70 | | | | | | | | |
| 100 | 75 | | | | | | | | |
| | 80 | | | | | | | | |
| | 85 | | | | | | | | |
| | 90 | | | | | | | | |
| | 95 | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-4
SHEET 1 OF 1
DATE STARTED: 11/23/94
DATE COMPLETED: 11/26/94

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 105+16.00
GROUND EL.: 415.51

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 30.00
G.W. DEPTH: 12

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: MCGLYNN

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

BOT. OF FOOTING ELEVATION 120.4

| METERS | DEPTH | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| 126.647 | | | | | | | | | |
| 125 | 5 | A-2-4, Sa, Moist, br, Rec.= 0.6' | 6 | 20.1 | 11.5 | 70.8 | 17.7 | | |
| 11/26/94 ▼ | 10 | No Rec. | 16 | | | | | | |
| | | A-1-a, SaGr, Moist, br, Rec.= 0.5' | 8 | 8 | 53.9 | 36.8 | 9.3 | | |
| | 15 | A-1-a, SaGr, Wet, br, Rec.= 0.4' | 6 | 11.1 | 72.7 | 22.7 | 4.6 | | |
| | | A-4, SI, Wet, gr, Rec.= 1.2' | 2 | 36.5 | 3.6 | 4.2 | 92.2 | 29 | 2 |
| | 20 | A-4, SI, Wet, gr, Rec.= 2.0' | 4 | 39.8 | 18.1 | 1.5 | 80.4 | 24 | 2 |
| | | A-4, SI, Wet, gr, Rec.= 1.0' | 5 | 38.4 | 2.8 | 8.1 | 84.1 | | |
| | 25 | A-4, SISa, Wet, gr, Rec.= 0.4' | 5 | 25.1 | 1.2 | 61.7 | 37.1 | | |
| | | A-4, SISa, Wet, gr, Rec.= 0.4' | 4 | 28.9 | 0.2 | 24.9 | 74.9 | | |
| | 30 | A-4, SaSI, MTW, gr, Rec.= 1.0' | 10 | 17.8 | 0 | 28.8 | 71.2 | | |
| | | A-4, SaSI, MTW, gr, Rec.= 1.7' | 14 | 17.4 | 0.4 | 30.7 | 68.9 | | |
| | 35 | A-4, SaSI, MTW, gr, Rec.= 1.0' | 88 | 21.1 | 3.2 | 30.7 | 66.1 | | |
| | | A-4, SaSI, MTW, gr, Rec.= 1.0' | | 17.7 | 2.8 | 38.4 | 58.8 | | |
| 115 | 40 | A-4, SaSI, MTW, gr, Rec.= 1.5' | | 20.3 | 0 | 33 | 67 | | |
| | | A-4, SaSI, MTW, gr, Rec.= 1.3' | | 22.4 | 8.1 | 27.8 | 64.1 | | |
| | 45 | A-4, SaSI, MTW, gr, Rec.= 1.0' | | 10.9 | 36.8 | 33.6 | 29.6 | | |
| | | A-2-4, SISaGr, MTW, gr, Rec.= 0.3' | | | | | | | |
| | 50 | Run 1: BXMDC, 35.4'-40.4', Rec.= 5.0', See Geologist's Report. | | | | | | | |
| | | Run 2: Changed bit @ 40.4' BXMDC, 40.4'-45.4', Rec.= 5.0', See Geologist's Report. | | | | | | | |
| 110 | 55 | | | | | | | | |
| | 60 | Geologist's Report | | | | | | | |
| | 65 | Run #1: Core consists of quartz, sericite, and chlorite phyllite. The rock is moderately hard, unweathered, and competent overall. | | | | | | | |
| 105 | 70 | | | | | | | | |
| | 75 | Run #2 : Same as Run #1. | | | | | | | |
| | 80 | | | | | | | | |
| 100 | 85 | | | | | | | | |
| | 90 | | | | | | | | |
| | 95 | | | | | | | | |

Top of bedrock @ 35.4'

| Dip (d) | REC % | ROD % |
|---|---|---|
| 30-70 | 100 | 0 |
| | 100 | 87 |

Hole stopped @ 45.4'

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION

Town Of BERKSHIRE — Bridge No. 26
Highway No. VT. ROUTE 118 — Log Sta. — Surv. Sta.

VT. ROUTE 118 OVER TROUT RIVER

BORING LOG SHEET - 1

Designed By VAOT — Drawn By S.DELJA
Checked By S.JOHNSON — Date 02/00 — Bridge Design Supervisor — Date
PROJECT BERKSHIRE — PROJECT NO. BRF-RS 0283(7)
I.G.C. Info. y:\J914562\zf184bl1.dgn — IPARM:zf184bl1J
Bridge Sheet No. BR6 — Sheet 45 of 140

78f184/zf184BL1

BORINGS ARE IN ENGLISH UNITS WITH THE EXCEPTION OF THE METRIC ELEVATION COLUMN ON THE FAR LEFT OF EACH BORING LOG.

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-8
SHEET 1 OF 2
DATE STARTED: 11/30/94
DATE COMPLETED: 12/5/94

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 107+05.00
GROUND EL.: 415.38

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: -20.00
G.W. DEPTH: 12

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: POWERS

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METRIC ELEVATION (METERS) | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 126.608 | | | | | | | | | | |
| 125 | 5 | | A-4, SlSa, Moist, br, Rec.= 0.7' | 6 | 37.4 | 2.8 | 56.5 | 40.7 | | |
| 12/05/94 ▼ | 10 | | A-1-a, SaGr, MTW, gr, Rec.= 0.5' | 14 | 37.1 | 62.9 | 30.6 | 6.5 | | |
| | 15 | | A-4, Si, Wet, gr, Rec.= 2.0' | 3 | 35.6 | 2 | 4.7 | 93.3 | | |
| BOT. OF FOOTING ELEVATION 120.4 | 20 | | A-4, Si, Wet, gr, Rec.= 2.0' | 5 | 39.9 | 0 | 5.2 | 94.8 | | |
| 120 | 25 | | A-2-4, SlSa, Wet, gr, Rec.= 0.9' | 13 | 15.2 | 6.8 | 64.6 | 28.6 | | |
| | 30 | | A-4, Si, Wet, gr, Rec.= 1.5' | 5 | 34 | 1.6 | 5.4 | 93 | | |
| | 35 | | A-4, Si, Wet, gr, Rec.= 1.5' | 3 | 31.6 | 0 | 4.1 | 95.9 | | |
| 115 | 40 | | A-4, Si, Wet, gr, Rec.= 0.7' | 13 | 27.6 | 0 | 4 | 96 | | |
| | 45 | | A-4, SaSl, Wet, gr, Rec.= 1.8' | 7 | 21.1 | 3.7 | 35 | 61.3 | | |
| | 50 | | A-4, Si, Wet, gr, Rec.= 1.2' | 8 | 16.6 | 8.5 | 16.3 | 75.2 | | |
| 110 | 55 | | A-4, SaSl, MTW, gr, Rec.= 0.8' | 43 | 18.1 | 9 | 26.9 | 64.1 | | |
| | 60 | | A-2-4, SlSa, Moist, gr, Rec.= 0.9' | R | 14.8 | 3.8 | 74.8 | 21.4 | | |
| | 65 | | Sample 1: BXMDC, 65.0'-69.5', Rec.= 1.5', Poss. loose rock and boulders, No Geologist's Report. | | | | | | | |
| 105 | 70 | | | | | | | | | |
| | 75 | | Sample 2: BXMDC, 69.5'-74.0', Rec.= 0, Poss. loose rock and boulders, No Geologist's Report. | Top of bedrock @ 78.0' | | | | | | |
| EST. PILE TIP EL. 102.83 | 80 | | | Dip (d) | REC % | ROD % | | | | |
| | 85 | | Run 1: BXMDC, 78.0'-83.0', Rec.= 5.0', See Geologist's Report. | 75 | 100 | 7 | | | | |
| 100 | 90 | | Run 2: BXMDC, 83.0'-88.0', Rec.= 5.0', See Geologist's Report. | 70 | 100 | 54 | | | | |
| | 95 | | | Hole stopped @ 88.0 | | | | | | |
| | 100 | | Geologist's Report | | | | | | | |
| 95 | 105 | | Run #1: Core consists of quartz-sericite-chlorite phyllite with abundent lenses of quartz. The rock is moderately hard, unweathered and competent overall. | | | | | | | |
| | | | Run #2 : Same as Run #1 | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-9
SHEET 1 OF 2
DATE STARTED: 12/6/94
DATE COMPLETED: 12/12/94

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 107+05.00
GROUND EL.: 416.39

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 20.00
G.W. DEPTH: 12

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: POWERS

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METRIC ELEVATION (METERS) | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 126.916 | | | | | | | | | | |
| 125 | 5 | | A-2-4, Sa, Moist, br, Rec.= 0.8' | 6 | 34.1 | 14.2 | 67.1 | 18.7 | | |
| 12/12/94 ▼ | 10 | | A-1-b, SaGr, Moist, gr/br, Rec.= 0.8' | 20 | 8.7 | 53.8 | 37.4 | 8.8 | | |
| | 15 | | A-4, Si, Wet, gr, Rec.= 1.8' | 2 | 29.1 | 0 | 0.9 | 99.1 | | |
| BOT. OF FOOTING ELEVATION 120.4 | 20 | | A-4, Si, Wet, gr, Rec.= 2.0' | 2 | 42.8 | 0.7 | 2.9 | 96.4 | | |
| 120 | 25 | | A-4, Si, Wet, gr, Rec.= 0.5' | 11 | 43.6 | 3.5 | 16.9 | 79.6 | | |
| | | | A-2-4, SlGrSa, Wet, gr, Rec.= 0.5' | | 17.9 | 25.4 | 52 | 22.6 | | |
| | 30 | | A-4, Si, Wet, gr, Rec.= 0.5' | 2 | 30.3 | 0.5 | 3.6 | 95.9 | | |
| | 35 | | A-4, Si, Wet, gr, Rec.= 2.0' | 4 | 37.1 | 0 | 2.7 | 97.3 | | |
| 115 | 40 | | A-4, SaSl, Wet, gr, Rec.= 2.0' | 5 | 14.9 | 0 | 29.7 | 70.3 | | |
| | 45 | | A-4, Si, Wet, gr, Rec.= 1.2' | 17 | 19.3 | 0 | 15.7 | 84.3 | | |
| | 50 | | A-4, Si, Wet, gr, Rec.= 1.8' | 8 | 15.7 | 5.6 | 15.4 | 79 | | |
| 110 | 55 | | A-4, SaSl, Wet, gr, Rec.= 1.7' | 7 | 18.6 | 0 | 23.9 | 76.1 | | |
| | 60 | | Loose rock, No rec. | 40 | | | | | | |
| | 65 | | Gr & bo's, No rec. | R | | | | | | |
| 105 | 70 | | No Rec. | R | | | | | | |
| | 75 | | A-4, SaSl, Moist, gy, Rec.= 0.5' | R | 16.2 | 13.6 | 39.8 | 46.6 | | |
| | 80 | | | R | 13 | 29.9 | 52.1 | 18 | | |
| EST. PILE TIP EL. 100.39 | 85 | | A-2-4, GrSa, Moist, gr, Rec.= 0.4' | Top of bedrock @ 87.0' | | | | | | |
| 100 | 90 | | Run 1: BXMDC, 87.0'-92.0', Rec.= 4.0', See Geologist's Report. | Dip (d) | REC % | ROD % | | | | |
| | 95 | | Run 2: BXMDC, 92.0'-97.0', Rec.= 5.0', See Geologist's Report. | 30 | 80 | 13 | | | | |
| | | | | 60 | 100 | 60 | | | | |
| | | | | Hole stopped @ 97.0' | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: B-9
SHEET 2 OF 2
DATE STARTED: 12/6/94
DATE COMPLETED: 12/12/94

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 107+05.00
GROUND EL.: 416.39

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 20.00
G.W. DEPTH: 12

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: POWERS

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|
| | | Geologist's Report | | | | | | | |
| 105 | | Run #1: Core consists of quartz-sericite-chlorite phyllite with abundent lenses of quartz. The rock is moderately hard and unweathered The rock is competent. | | | | | | | |
| 110 | | | | | | | | | |
| 115 | | | | | | | | | |
| 120 | | Run #2 : Same as Run #1 | | | | | | | |
| 125 | | | | | | | | | |
| 130 | | | | | | | | | |
| 135 | | | | | | | | | |
| 140 | | | | | | | | | |
| 145 | | | | | | | | | |
| 150 | | | | | | | | | |
| 155 | | | | | | | | | |
| 160 | | | | | | | | | |
| 165 | | | | | | | | | |
| 170 | | | | | | | | | |
| 175 | | | | | | | | | |
| 180 | | | | | | | | | |
| 185 | | | | | | | | | |
| 190 | | | | | | | | | |
| 195 | | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION

Town Of BERKSHIRE — Bridge No. 26
Highway No. VT. ROUTE 118 — Log Sta. — Surv. Sta.

VT. ROUTE 118 OVER TROUT RIVER
BORING LOG SHEET - 2

Designed By VAOT — Drawn By S.DELIA
Checked By S.JOHNSON — Date 02/00 — Bridge Design Supervisor — Date
PROJECT BERKSHIRE — PROJECT NO. BRF-RS 0283(7)
I.G.C. Info. y:\J9\4562\zf184bl2.dgn — IPARM:zf184bl2.I
Bridge Sheet No. BR7 — Sheet 46 of 140

78f184/zf184BL2

BORINGS ARE IN ENGLISH UNITS WITH THE EXCEPTION OF THE METRIC ELEVATION COLUMN ON THE FAR LEFT OF EACH BORING LOG.

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: AB-1
SHEET 1 OF 1
DATE STARTED: 11/18/96
DATE COMPLETED: 11/20/96

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 105+41.00
GROUND EL.: 415.48
PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: KELLY .
BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METERS | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Descr/ption) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 126.638 | | | | | | | | | | |
| 125 | 5 | | A-2-4, SiSa, Moist, br, Rec.= 1.0' | 5 | 24.1 | 7.5 | 64.5 | 28 | | |
| | 10 | | A-1-a, SaGr, MTW, br, Rec.= 0.8' | 27 | 11.7 | 58.9 | 33.9 | 7.2 | | |
| | 15 | | A-4, ClSi, Wet, gr, Rec.= 0.6' | 5 | 34 | 0.9 | 2.8 | 96.3 | 29 | 8 |
| BOT. OF FOOTING ELEVATION 120.4 | 20 | | A-2-4, Sa, sat, gr, Rec.= 0.5' | 13 | 23.7 | 0.4 | 82.1 | 17.5 | | |
| 120 | 25 | | No Rec. | 16 | | | | | | |
| | | | Top of bedrock @ 29.5' | | | | | | | |
| | 30 | | Run 1: BXMDC, 29.5'-34.5', Rec.= 5.0', See Geologist's Report. | Dip (d) | REC % | ROD % | | | | |
| | | | | | 70 | 100 | 80 | | | |
| | 35 | | Run 2: BXMDC, 34.5'-39.5', Rec.= 5.0', See Geologist's Report. | | 70 | 100 | 86 | | | |
| 115 | 40 | | Hole stopped @ 39.5' | | | | | | | |
| | 45 | | Geologist's Report<br>Run #1: Gray-green quartz sericite chlorite phyllite with lenses of quartz. Moderately hard, unweathered, and competent. | | | | | | | |
| | 50 | | | | | | | | | |
| 110 | 55 | | | | | | | | | |
| | 60 | | Run #2 : Same as Run #1. | | | | | | | |
| | 65 | | | | | | | | | |
| 105 | 70 | | | | | | | | | |
| | 75 | | | | | | | | | |
| | 80 | | | | | | | | | |
| 100 | 85 | | | | | | | | | |
| | 90 | | | | | | | | | |
| | 95 | | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: AB-2
SHEET 1 OF 1
DATE STARTED: 11/20/96
DATE COMPLETED: 11/21/96

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 105+41.00
GROUND EL.: 415.33
PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: -16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: KELLY .
BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METERS | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Descr/ption) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 126.592 | | | | | | | | | | |
| 125 | 5 | | A-4, SaSl, MTW, br, Rec.= 0.4' | 7 | 34.9 | 10.7 | 41.7 | 47.6 | | |
| | 10 | | A-1-a, SaGr, Moist, br, Rec.= 0.9' | 27 | 9.7 | 54.7 | 35.3 | 10 | | |
| | 15 | | A-2-4, GrSiSa, Wet, gr, Rec.= 0.9' | 11 | 19.8 | 20.8 | 48.2 | 31 | | |
| BOT. OF FOOTING ELEVATION 120.4 | 20 | | A-4, SaSl, Wet, gr, Rec.= 1.2' | 8 | 27.8 | 11.2 | 34.2 | 54.6 | | |
| 120 | 25 | | No Rec. | | | | | | | |
| | | | Top of bedrock @ 25.2' | | | | | | | |
| | 30 | | Run 1: BXMDC, 25.2'-30.2', Rec.= 4.5', See Geologist's Report. | Dip (d) | REC % | ROD % | | | | |
| | | | | | 70 | 90 | 43 | | | |
| | | | Run 2: BXMDC, 30.2'-35.2', Rec.= 5.0', See Geologist's report. | | 70 | 100 | 99 | | | |
| 115 | 35 | | Hole stopped @ 35.2 | | | | | | | |
| | 40 | | Geologist's Report<br>Run #1: Gray-green quartz sericite chlorite phyllite with quartz lenses. Moderately hard, unweathered, and competent. | | | | | | | |
| | 45 | | | | | | | | | |
| | 50 | | Run #2 : Same as Run #1. | | | | | | | |
| 110 | 55 | | | | | | | | | |

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: AB-3
SHEET 1 OF 1
DATE STARTED: 11/22/96
DATE COMPLETED: 12/5/96

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 106+86.00
GROUND EL.: 412.23
PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: -16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: KELLY .
BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METERS | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Descr/ption) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 126.647 | | | | | | | | | | |
| 125 | 5 | | A-2-4, Sa, Moist, br, Rec.= 0.6' | 5 | 22.8 | 4.5 | 85.6 | 9.9 | | |
| | 10 | | No Rec. | 18 | | | | | | |
| | 15 | | A-4, ClSl, Wet, gr, Rec.= 2.0' | 3 | 44.6 | 0 | 5.3 | 94.7 | 28 | 7 |
| BOT. OF FOOTING ELEVATION 120.4 | 20 | | A-4, Sl, Wet, gr, Rec.= 2.0' | 1 | 33.1 | 0.8 | 11.2 | 88 | 24 | 4 |
| 120 | 25 | | A-4, Sl, Wet, gr, Rec.= 2.0' | 1 | 37 | 0 | 0.9 | 99.1 | 26 | 4 |
| | 30 | | A-4, Sl, sat, gr, Rec.= 2.0' | 2 | 33.5 | 0.1 | 3 | 96.9 | | |
| | 35 | | A-4, Sl, Wet, gr, Rec.= 1.9' | 9 | 27.5 | 0 | 15.4 | 84.6 | | |
| 115 | 40 | | A-4, SaSl, Wet, gr, Rec.= 2.0' | 13 | 23.6 | 0.3 | 19.8 | 79.9 | | |
| | 45 | | A-4, SaSl, Wet, gr, Rec.= 1.2' | 8 | 22.2 | 9.3 | 25.4 | 65.3 | | |
| | 50 | | A-4, GrSaSl, Wet, gr, Rec.= 1.0' | 29 | 20.3 | 26.6 | 31.8 | 41.6 | | |
| 110 | 55 | | A-3, Sa, Wet, gr, Rec.= 2.0' | 25 | 15.7 | 0 | 91.5 | 8.5 | | |
| | 60 | | A-1-a, SaGr, Wet, gr, Rec.= 1.0' | 76 | 10.3 | 67 | 25.7 | 7.3 | | |
| | 65 | | A-1-a, SaGr, MTW, gr, Rec.= 0.6' | R | 11.8 | 52.5 | 37.2 | 10.3 | | |
| EST. PILE TIP EL. 105.62 | | | Top of bedrock @65.7' | | | | | | | |
| 105 | 70 | | Run 1: BXMDC, 65.7'-70.7', Rec.= 4.8', See Geologist's Report. | Dip (d) | REC % | ROD % | | | | |
| | | | | | 70 | 96 | 74 | | | |
| | 75 | | Run 2: BXMDC, 70.7'-75.7', Rec.= 5.0', See Geologist's Report. | | | 100 | | | | |
| | | | Hole stopped @ 75.7' | | | | | | | |
| | 80 | | Geologist's Report<br>Run #1: Gray-Green quartz, sericite, chlorite phyllite with thin quartz veins. Moderately hard, unweathered, and competent. | | | | | | | |
| 100 | 85 | | | | | | | | | |
| | 90 | | Run #2: Same as Run #1 | | | | | | | |
| | 95 | | | | | | | | | |

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT.ROUTE 118 | Log Sta. / Surv. Sta. |
| VT.ROUTE 118 OVER TROUT RIVER | |
| BORING LOG SHEET - 3 | |
| Designed By VAOT | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| L.G.C. Info. y:\J9\4562\zf184bl3.dgn | IPARM:zf184bl3J |
| Bridge Sheet No. BR8 | Sheet 47 of 140 |

78f184/zf184BL3

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**
**MATERIALS & RESEARCH DIVISION**
**SUBSURFACE INFORMATION**

HOLE NO.: AB-4
SHEET 1 OF 2
DATE STARTED: 12/04/96
DATE COMPLETED: 12/12/96

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 106+86.00
GROUND EL.: 412.84

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: TALLMAN .

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METRIC ELEVATION | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 125.834 | | | | | | | | | | |
| 125 | 5 | | A-3, GrSa, MTW, br, Rec.= 1.8' | 6 | 23.8 | 27.2 | 63.7 | 9.1 | | |
| | 10 | | No Rec. (Gravel) | 17 | | | | | | |
| BOT. OF FOOTING ELEVATION 120.4 | 15 | | A-4, ClSl, Wet, gr, Rec.= 1.8' | 4 | 39.9 | 0 | 0.7 | 99.3 | 27 | 7 |
| 120 | 20 | | A-4, ClSl, Wet, gr, Rec.= 1.7' | 2 | 32.6 | 0.1 | 2.4 | 97.5 | 25 | 6 |
| | 25 | | A-1-b, GrSa, Wet, gr, Rec.= 1.0' | 11 | 14.5 | 22.3 | 61.5 | 16.2 | | |
| | 30 | | A-4, ClSl, Wet, gr, Rec.= 2.0' | 0 | 36.6 | 0 | 1.7 | 98.3 | 26 | 5 |
| 115 | 35 | | A-4, Sl, Wet, gr, Rec.= 1.0' | 5 | 32.4 | 0 | 3.2 | 96.8 | | |
| | 40 | | A-4, Sl, MTW, gr, Rec.= 0.8' | 12 | 25.1 | 0 | 10.2 | 89.8 | | |
| | 45 | | A-4, SaSl, Wet, gr, Rec.= 1.7' | 5 | 18.6 | 10.2 | 22.5 | 67.3 | | |
| 110 | 50 | | A-4, SaSl, Wet, gr, Rec.= 0.8' | 14 | 21.3 | 14 | 23.3 | 62.7 | | |
| | 55 | | A-1-b, GrSa, Wet, gr, Rec.= 0.4' | 39 | 10.9 | 42.5 | 45.7 | 11.8 | | |
| | 60 | | No Rec., BXDC, 60.3'-65.3', Boulders | R | | | | | | |
| | 65 | | No Rec., Bo's | | | | | | | |
| 105 | 70 | | A-1b, GrSa, Moist, gr, Rec.= 0.9' | R | 10.9 | 39.8 | 43.4 | 16.8 | | |
| | 75 | | Unable to sample, Flowing sand | | | | | | | |
| | 80 | | Unable to sample, Flowing sand | Top of bedrock @ 82.5' | | | | | | |
| EST. PILE TIP EL. 100.68 | | | | Dip (o) | REC % | ROD % | | | | |
| 100 | 85 | | Run 1: BXMDC, 82.5'-87.5', Rec.= 4.2', See Geologist's Report. | 70-80 | 84 | 50 | | | | |
| | 90 | | Run 2: BXMDC, 87.5'-92.5', Rec.= 4.0', See Geologist's Report. | | 80 | 45 | | | | |
| | 95 | | | Hole stopped @ 92.5' | | | | | | |

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**
**MATERIALS & RESEARCH DIVISION**
**SUBSURFACE INFORMATION**

HOLE NO.: AB-4
SHEET 2 OF 2
DATE STARTED: 12/04/96
DATE COMPLETED: 12/12/96

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 106+86.00
GROUND EL.: 412.84

PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 16.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: TALLMAN .

BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METRIC ELEVATION | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 95 | | | Geologist's Report | | | | | | | |
| | 105 | | Run #1: Gray-green, sericite, chlorite phyllite with quartz veins and magnetite porphyroblasts. Moderately hard, unweathered and competent. | | | | | | | |
| 90 | 110 | | | | | | | | | |
| | 115 | | | | | | | | | |
| | 120 | | | | | | | | | |
| | 125 | | Run #2 : Same as Run #1 with lesser amount of magnatite. | | | | | | | |
| | 130 | | | | | | | | | |
| 85 | 135 | | | | | | | | | |
| | 140 | | | | | | | | | |

BORINGS ARE IN ENGLISH UNITS WITH THE EXCEPTION OF THE METRIC ELEVATION COLUMN ON THE FAR LEFT OF EACH BORING LOG.

**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| BORING LOG SHEET - 4 | |
| Designed By VAOT | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J91\456\2\zf184bl4.dgn | IPARM:zf184bl4.i |
| Bridge Sheet No. BR9 | Sheet 48 of 140 |

78f184/zf184BL4

VAOT Metric

BORINGS ARE IN ENGLISH UNITS WITH THE EXCEPTION OF THE METRIC ELEVATION COLUMN ON THE FAR LEFT OF EACH BORING LOG.

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: AB-5
SHEET 1 OF 1
DATE STARTED: 12/17/96
DATE COMPLETED: 12/19/96

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 106+81.00
GROUND EL.: 412.99
PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: 0.00
G.W. DEPTH:

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: TALLMAN .
BORING RIG: TRUCK
BORING TYPE: HOLLOW STEM
SAMPLE TYPE: SHELBY TUBE

| METRIC ELEVATION (METERS) | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 125.879 | | | No Rec., 0.0'- 6.0', (SaSl) | | | | | | | |
| 125 | 5 | | No Rec., 6.0'- 12.0', (Gr) | | | | | | | |
| BOT. OF FOOTING ELEVATION 120.4 | | | | | | | | | | |
| 120 | 10 | | Pushed tube 12.0'- 14.0', No Rec. | | | | | | | |
| | 15 | | Pushed tube 14.0'- 16.0', Rec.= 1.3', (cl) | | 32.2 | 0 | 1.9 | 98.1 | 21 | 1 |
| 115 | | | Vane shear @ 18.0', Reading 105, Rem 30, Pushed tube 18.0'- 20.0', No Rec. | | | | | | | |
| | 20 | | Vane shear @ 22.0', Reading 85, Rem 14, Pushed tube 22.0'- 24.0', Rec.= 2.0',(SlSa in bottom of tube) | | | | | | | |
| 110 | 25 | | Unable to push vane @ 24.0'- 26.0' because of gravel layer | | 28.8 | 0.8 | 1.7 | 97.5 | 31 | 9 |
| | | | Pushed tube 26.0'- 28.0', Rec.= 2.0',(ClSl) | | | | | | | |
| | 30 | | Vane @ 30.0', Reading 186, Rem 28, Pushed tube 30.0'- 32.0', Rec.= 1.4', (Sl) | | 31.3 | 0.7 | 1.1 | 98.2 | | |
| 105 | 35 | | | | Hole stopped @ 32.0' | | | | | |
| | 40 | | | | | | | | | |
| 100 | 45 | | | | | | | | | |

Vane Shear & Shelby Tube Report

Tube 14' to 16' Results :
$\Theta o$ = 0.87 Cc = 0.14 Cr = 0.013

Vane Shear @ 18' Results :
Su (V.S.) = 459 psf Su (REM) = 131 psf

Vane Shear @ 22' Results :
Su (V.S.) = 372 psf Su (REM) = 61 psf

Tube 22' to 24' Results : Cu = 1179 psf
$\Theta o$ = 0.70 Cc = 0.14 Cr = 0.021

Tube 26' to 28' Results : Cu = 792 psf
$\Theta o$ = 0.73 Cc = 0.15 Cr = 0.035

Vane Shear @ 30' Results :
Su (V.S.) = 814 psf Su (REM) = 122 psf
Tube 30' to 32' Results :
$\Theta o$ = 0.89 Cc = 0.13 Cr = 0.030

## STATE OF VERMONT
## AGENCY OF TRANSPORTATION
## MATERIALS & RESEARCH DIVISION
## SUBSURFACE INFORMATION

HOLE NO.: R-1
SHEET 1 OF 1
DATE STARTED: 3/3/95
DATE COMPLETED: 3/3/95

PROJECT NAME: BERKSHIRE
SITE NAME: VT RT 118
STATION: 110+00.00
GROUND EL.: 412.77
PROJECT NUMBER: BRS 0283(7)
SITE NO.: BR 26
OFFSET: -23.00
G.W. DEPTH: 0

BORING CREW
CREW CHIEF: WILLIS
DRILLER: WILLIS
LOGGER: MCGLYNN
BORING RIG: TRUCK
BORING TYPE: WASH BORE
SAMPLE TYPE: SPLIT BARREL

| METRIC ELEVATION (METERS) | DEPTH | SYMBOL | CLASSIFICATION OF MATERIALS (Description) | BLOWS PER FOOT | M.C. % | GRAVEL % | SAND % | FINES % | LL | PI |
|---|---|---|---|---|---|---|---|---|---|---|
| 125.812 | | | | | | | | | | |
| 125 | 5 | | A-4, SaSl, Wet, br, Trace of Organics | 0 | 94.4 | 0.2 | 24.8 | 75 | | |
| | | | A-4, SaSl, br, Wet, Rec.= 2.0' W/Organics | 1 | 70.4 | 0.1 | 29 | 70.9 | | |
| | 10 | | A-1-a, SaGr, br, Wet, Rec.= 0.6' | 13 | 14 | 59.8 | 33.3 | 6.9 | | |
| | 15 | | A-1-b, SaGr, gr, Wet, Rec.= 0.8' | 43 | 13.2 | 43.6 | 41.2 | 15.2 | | |
| BOT. OF FOOTING ELEVATION 120.4 | | | | | | | | | | |
| 120 | 20 | | A-1-b, GrSa, gr, Wet, Rec.= 0.8' | 16 | 13 | 40.9 | 42.4 | 16.7 | | |
| | 25 | | A-2-4, SlGrSa, gr, Wet, Rec.= 1.1' | 42 | 11.5 | 27.4 | 46.3 | 26.3 | | |
| | 30 | | A-4, GrSaSl, gr, Moist, Rec.= 0.7' | R | 16.7 | 20 | 34 | 46 | | |
| 115 | 35 | | A-4, SaSl, gr, Moist, Rec.= 0.2' | R | 8.1 | 14.1 | 42.9 | 43 | | |
| | 40 | | | | Hole stopped @ 35.5' | | | | | |

| | |
|---|---|
| **STATE OF VERMONT** | |
| **AGENCY OF TRANSPORTATION** | |
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| BORING LOG SHEET - 5 | |
| Designed By VAOT | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J914562\zf184bl5.dgn | IPARM:zf184bl5J |
| Bridge Sheet No. BR10 | Sheet 49 of 140 |

78f184/zf184BL5

END PERMANENT SHEET PILING

STONE FILL TYPE II | STONE FILL TYPE IV

1:1.5

1:1.5

WW1

1:1.5

1:1.5

WW2

1:1.5

STONE FILL TYPE IV

PERMANENT SHEET PILING (BEGINS @ 10+120, 15.0 Rt and ends @ 10+160, 9.5 Lt.

N

MAG 1985

N 7°37'32.1" W

1+040

1+020

BEGIN BRIDGE
STA.10+163.300
F.G. EL. 129.417

COFFERDAM

10+160

6000 APPROACH SLAB (TYP.)

1:10 MIN.

℄ BRG. ABUT. NO. 1
STA.10+164.000
F.G. EL. 129.434

90°-0'-0" (TYP.)

4650 FACE OF CURB (TYP.)

5250 TO FASCIA (TYP.)

N 82°22'24.8" E

℄ VT. ROUTE 118 & GRADE LINE

10+180

4800 TO FACE OF RAIL (TYP.)

89°-59'-56.9"

3300

3300

10+200

VT. ROUTE 118 STA.10+189.703 =
TROUT RIVER BASELINE STA. 1+030.002

Proposed New Channel

PERMANENT STEEL SHEET PILING (Begins @ 10+210, 11.2 Lt. and ends @ 10+290, 17.5 Rt.

TROUT RIVER

STONE FILL TYPE IV | STONE FILL TYPE II

END PERMANENT SHEET PILING

1:1.5

1:1.5

WW3

1:1.5

1:1.5

WW4

1:1.5

STONE FILL TYPE IV

℄ BRG. ABUT. NO. 2
STA.10+208.000
F.G. EL. 130.183

COFFERDAM

1:10 MIN.

END BRIDGE
STA.10+208.700
F.G. EL. 130.190

10+220

1000

1500

3300

3300

1500

1000

## PLAN

0 2 4 8

SCALE: 1:100

PAY LIMITS GUARD RAIL APPROACH SECTION NETC 2 RAIL 7620

900 TYP | 1200 TYP | 1800 TYP

PAY LIMITS BRIDGE RAILING - 2 RAIL NETC

BRIDGE RAIL POST 18 SPACES @ 2390 = 43 020

50 820 EACH SIDE

PAY LIMITS GUARD RAIL APPROACH SECTION NETC 2 RAIL 7620

PAY LIMITS STEEL BEAM GUARDRAIL (TYP)

℄ BRG. ABUTMENT 1 (FIXED)

44 000
℄ BRG. TO ℄ BRG.

℄ BRG. ABUTMENT 2 (EXPANSION)

130
128
126
124
122
120
118
116
114

BASE OF KEY FOR EMBANKMENT STABILIZATION

EL. 120.400

APPROXIMATE TOP OF BEDROCK

Q2.33
EL. 125.660

Q50
EL. 127.320

Q100
EL. 127.710

EXISTING STREAMBED

APPROXIMATE FINISHED GROUND

APPROXIMATE EXISTING GROUND

BASE OF KEY FOR EMBANKMENT STABILIZATION

EL. 120.400

## ELEVATION

0 2 4 8

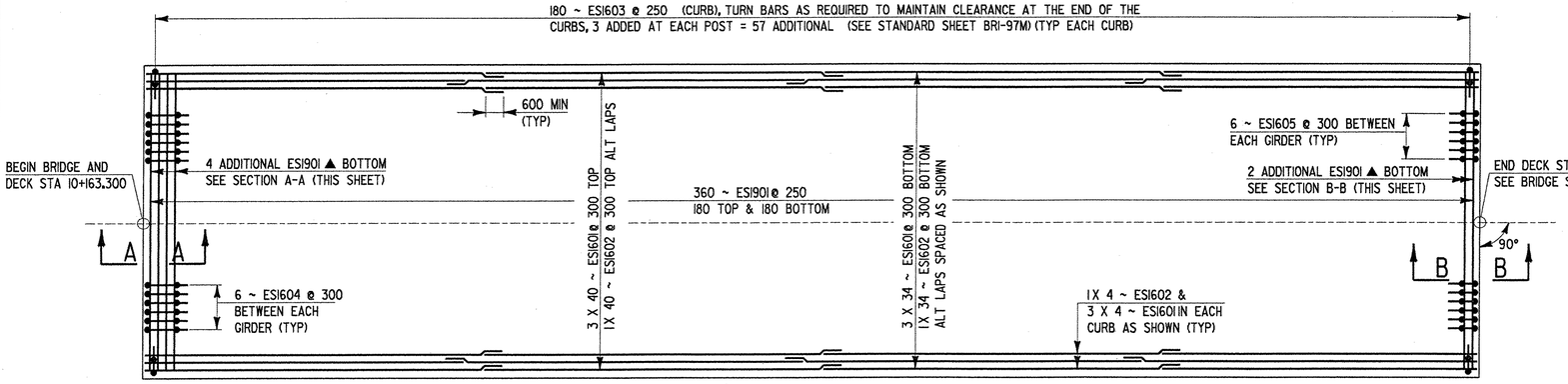
SCALE: 1:100

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| PLAN AND ELEVATION | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| L.G.C. Info. y:\J914562\zf184gpl.dgn | IPARM:zf184gplJ |
| Bridge Sheet No. BRII | Sheet 50 of 140 |

78f184/zf184PE

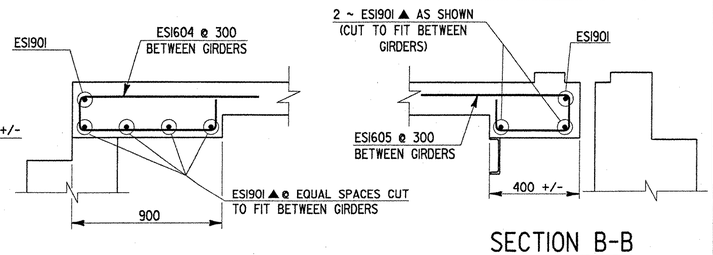
Metric




## PLAN VIEW

0 2 4 6 8 10

SCALE 1:100



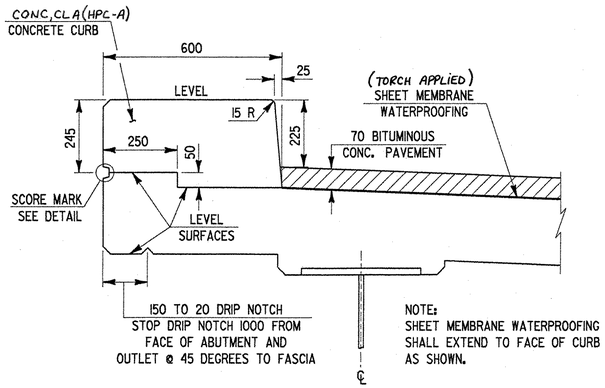

## SECTION A-A

NOT TO SCALE




## SECTION B-B

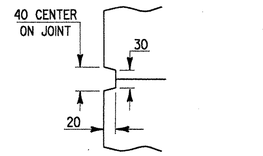
NOT TO SCALE




## TYPICAL CURB SECTION

0 0.5 1

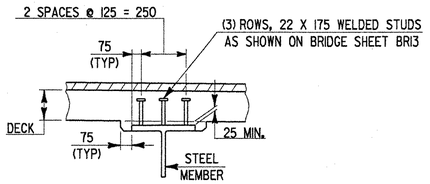
SCALE 1:10




## SCORE MARK DETAIL

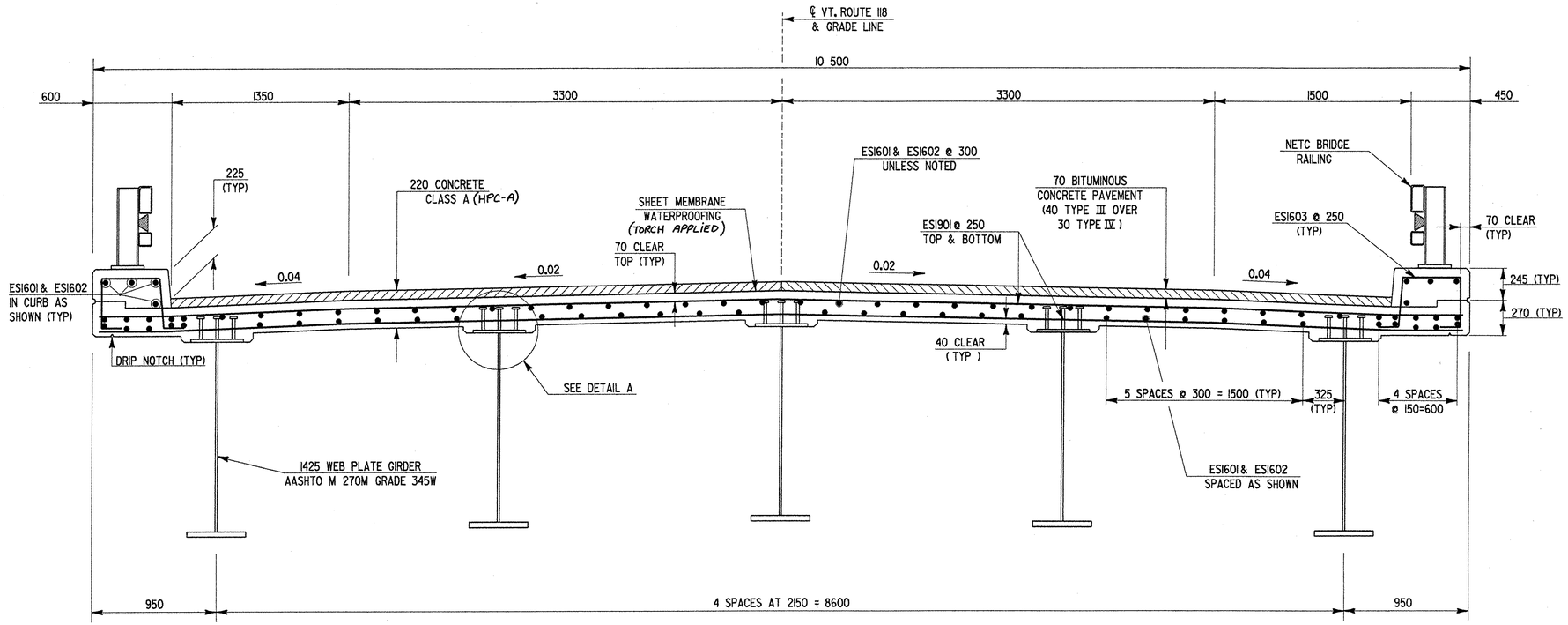
0 0.25 0.5

SCALE 1:5




## DETAIL A

NOT TO SCALE




## TYPICAL BRIDGE SECTION

0 1 2

SCALE 1:20

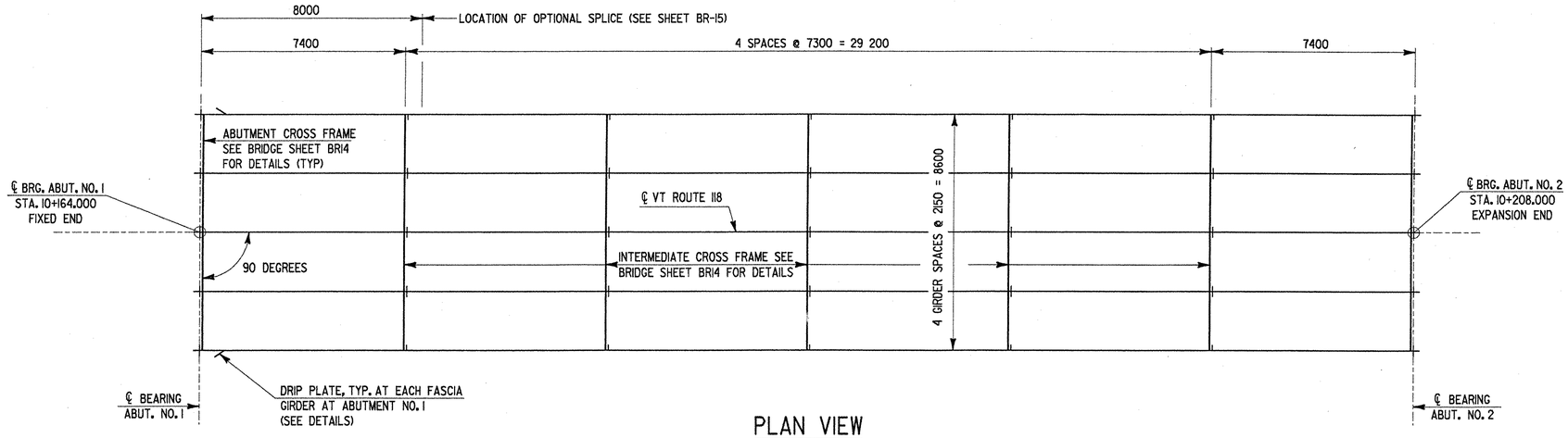
### NOTE:

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

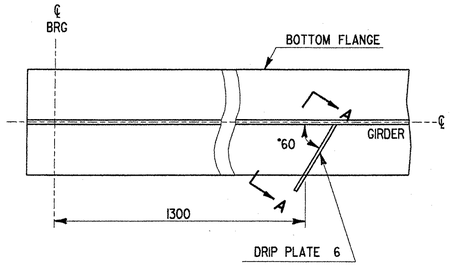
# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| TYPICAL SECTION AND DECK PLAN | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| L.G.C. Info. y:\J914562\zf184dty.dgn | IPARM:zf184dtyJ |
| Bridge Sheet No. BRI2 | Sheet 51 of 140 |

78f184/zf184DEC



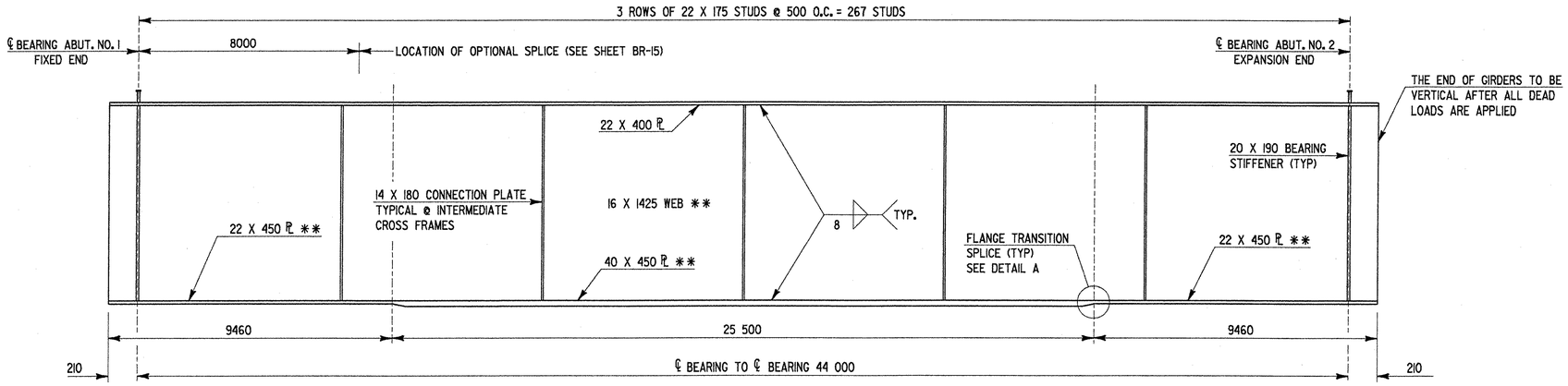

## PLAN VIEW




## PLAN DRIP PLATE

NOT TO SCALE

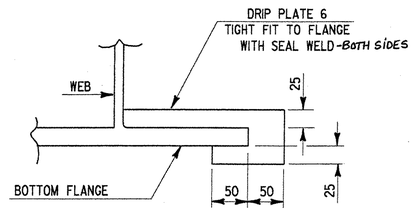
NOTE: DRIP PLATES SHALL BE PLACED ON OUTSIDE EDGE OF FASCIA GIRDERS ON THE HIGH SIDE OF ALL PIERS AND ABUTMENTS OR AS INDICATED ON PROJECT PLANS.




## GIRDER ELEVATION

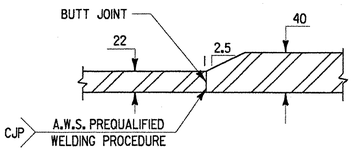
NOT TO SCALE

** INDICATES NEED FOR CHARPY V-NOTCH TEST (SEE NOTE 31, BRIDGE SHEET 1)



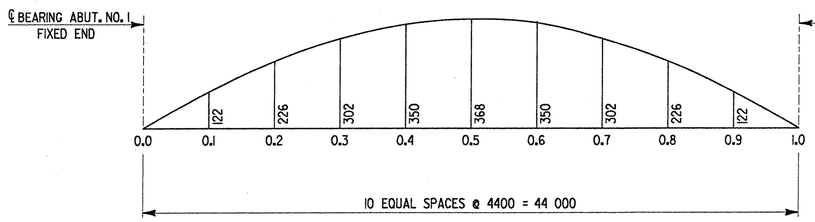

## SECTION A-A

NOT TO SCALE




## DETAIL A

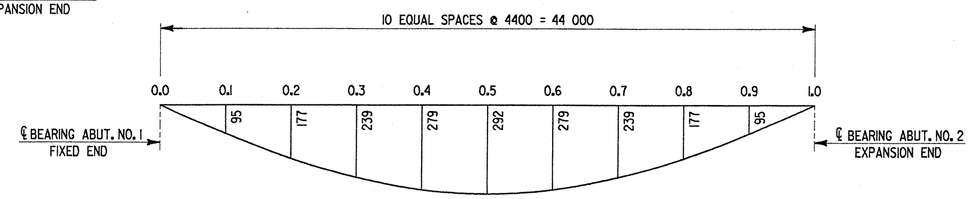
NOT TO SCALE




## CAMBER DIAGRAM

NOT TO SCALE

NOTE: CAMBER DIAGRAM INCLUDES CAMBER FOR DEAD LOAD AND THE VERTICAL CURVE




## DEAD LOAD DEFLECTION DIAGRAM

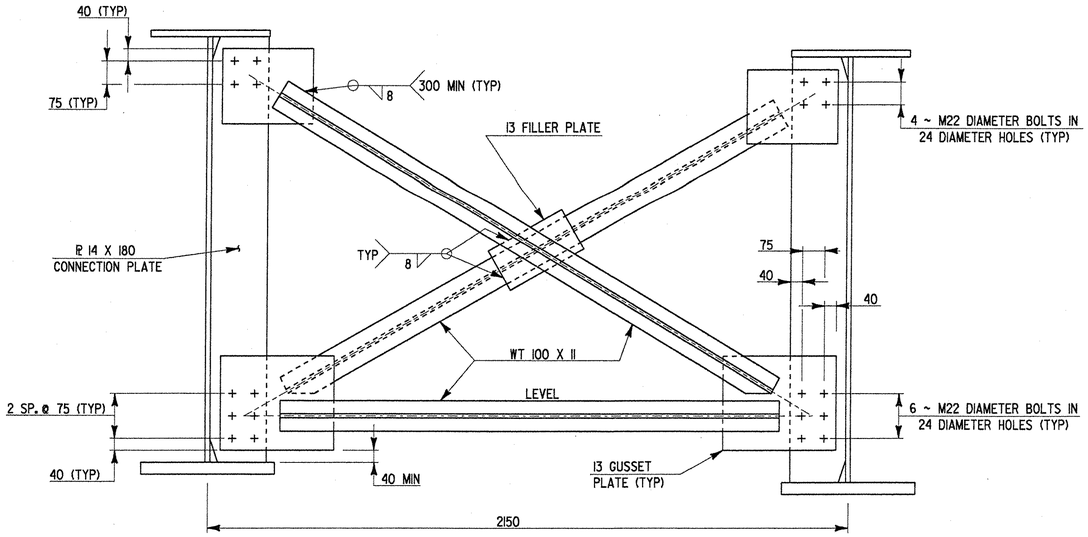
NOT TO SCALE

NOTE: DEAD LOAD DEFLECTIONS SHOWN ARE FOR ALL DEAD LOADS AND SUPERIMPOSED DEAD LOADS (INCLUDING GIRDERS & CROSS-FRAMES)

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

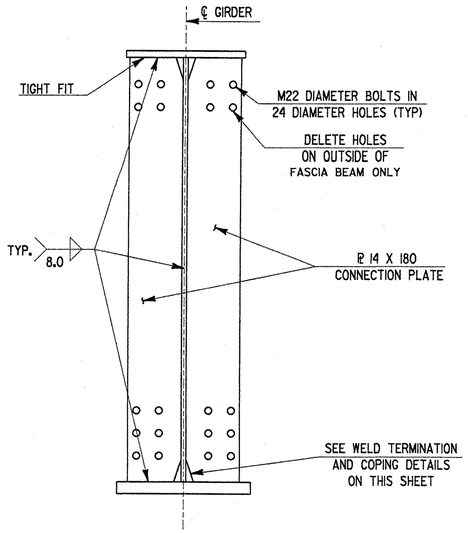
| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| FRAMING PLAN AND GIRDER ELEVATION | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON — Date 02/00 | Bridge Design Supervisor — Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J91456\zf184fpl.dgn | IPARM:zf184fpl.I |
| Bridge Sheet No. BRI3 | Sheet 52 of 140 |

78f184/zf184FRA



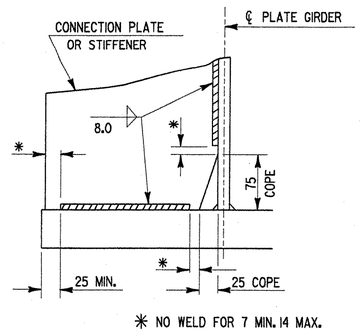

## INTERMEDIATE CROSS FRAME CONNECTION PLATE DETAIL

0 0.5 1
SCALE 1:10




## INTERMEDIATE CROSS FRAME CONNECTION PLATE DETAIL

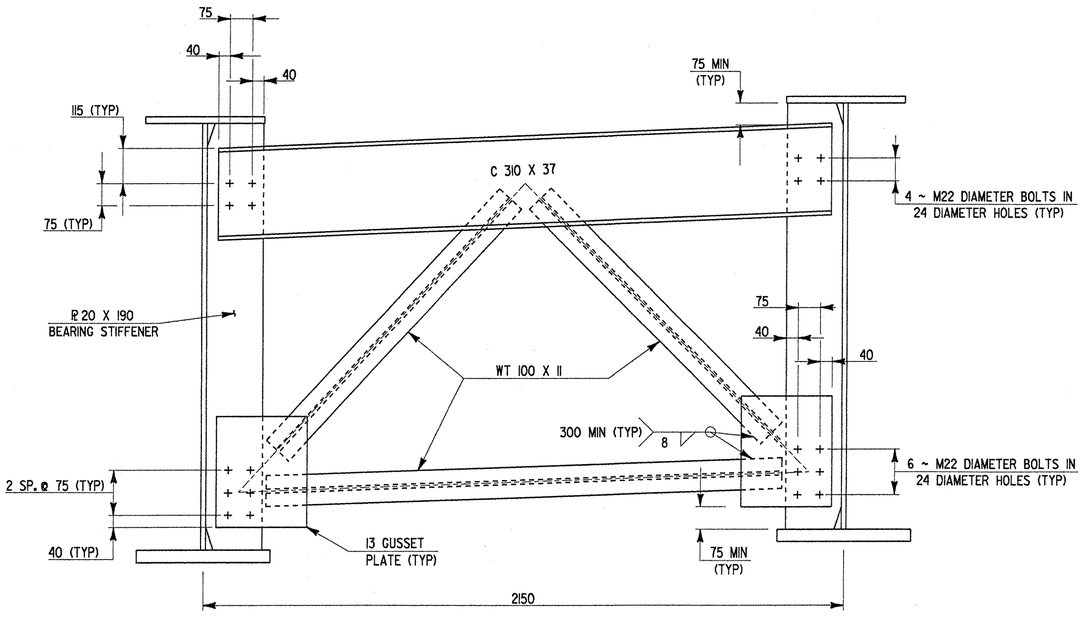
0 0.5 1
SCALE 1:10




* NO WELD FOR 7 MIN. 14 MAX.

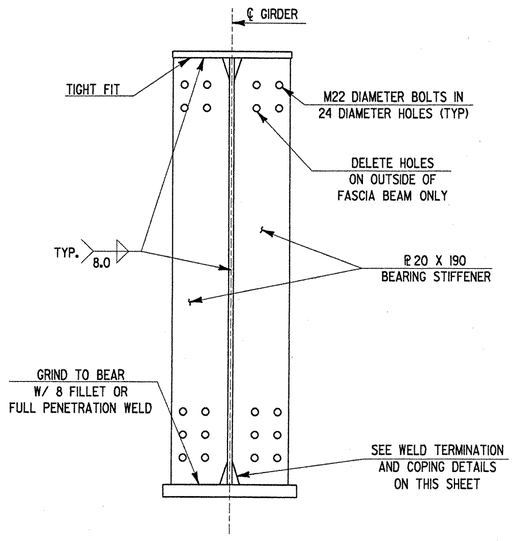
## WELD TERMINATION AND COPING DETAILS FOR WELDED PLATE GIRDERS

0 0.5 1
SCALE 1:10



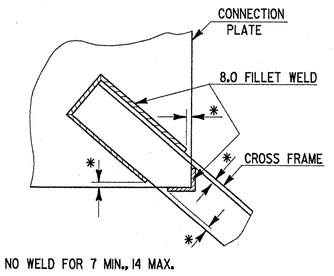

## ABUTMENT CROSS FRAME

0 0.5 1
SCALE 1:10




## BEARING STIFFENER & CONNECTION PLATE AT ABUTMENTS

0 0.5 1
SCALE 1:10




* NO WELD FOR 7 MIN., 14 MAX.

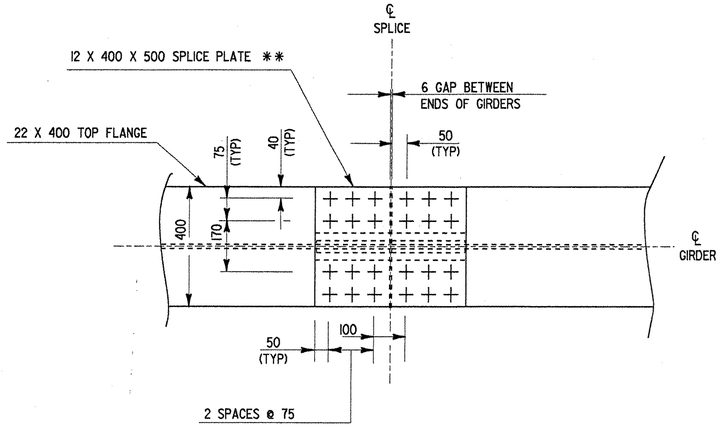
## WELD LOCATION DETAIL AT CROSS FRAMES

NOT TO SCALE

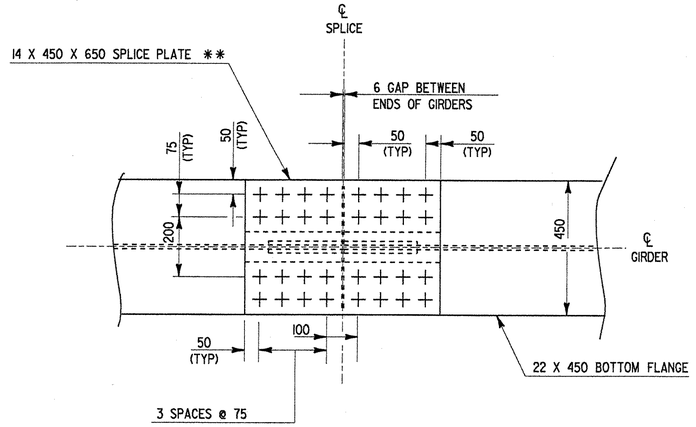
# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| CROSS FRAME DETAILS | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON — Date 02/00 | Bridge Design Supervisor — Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| L.G.C. Info. y:\J91456\zf184odt.dgn | IPARM:zf184odt.1 |
| Bridge Sheet No. BRI4 | Sheet 53 of 140 |

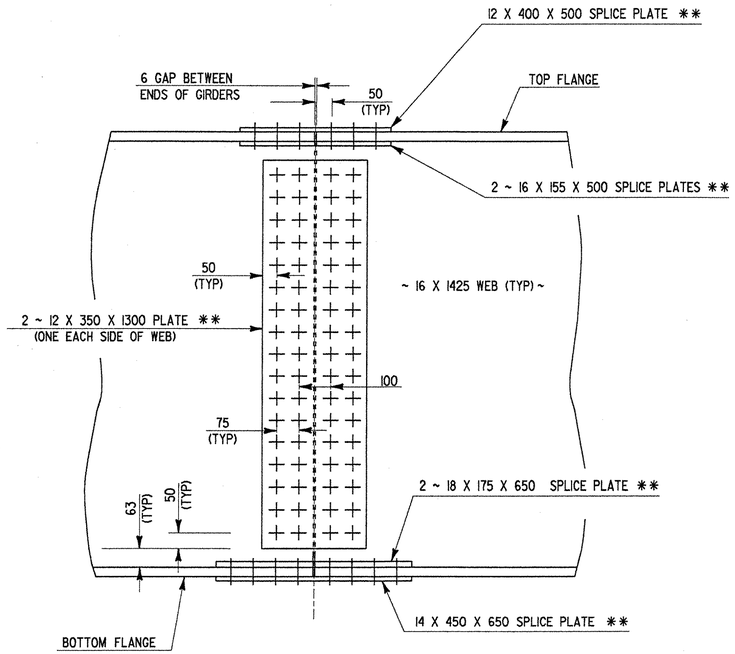
78f184/zf184XFM



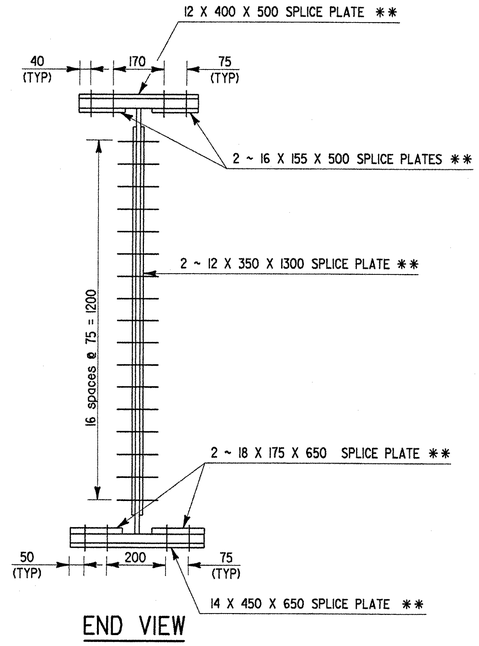

PLAN VIEW - TOP FLANGE




PLAN VIEW - BOTTOM FLANGE




ELEVATION VIEW




END VIEW

## SPLICE NOTES

1. ALL SPLICE CONNECTIONS SHALL BE MADE USING M22 DIAMETER, AASHTO M 164M, BOLTS IN 24 DIAMETER HOLES.

2. SPLICE SHOWN IS OPTIONAL. IF THE CONTRACTOR ELECTS TO UTILIZE THE SPLICE, ALL COSTS SHALL BE INCLUDED IN THE PRICE BID FOR ITEM 506.55 STRUCTURAL STEEL (PLATE GIRDER).

## SPLICE DETAILS

0 .5 1

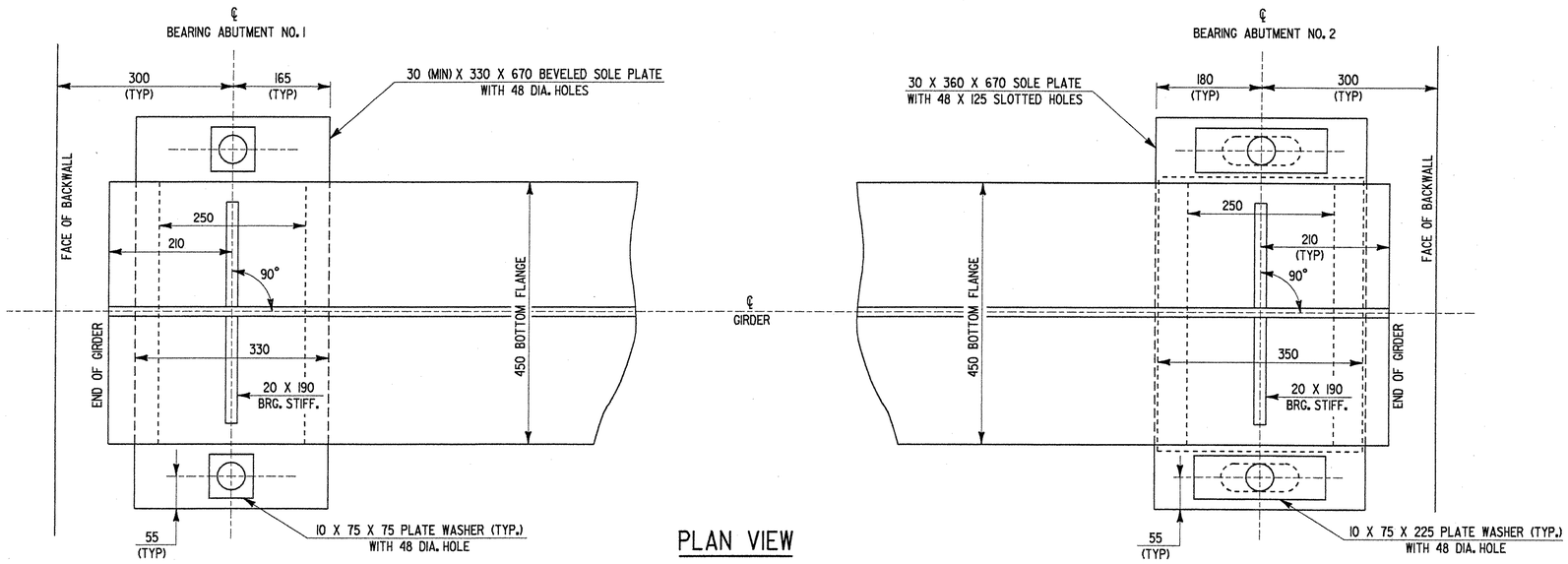
SCALE 1:10

** INDICATES NEED FOR CHARPY V-NOTCH TEST
(SEE NOTE 31, BRIDGE SHEET 1)

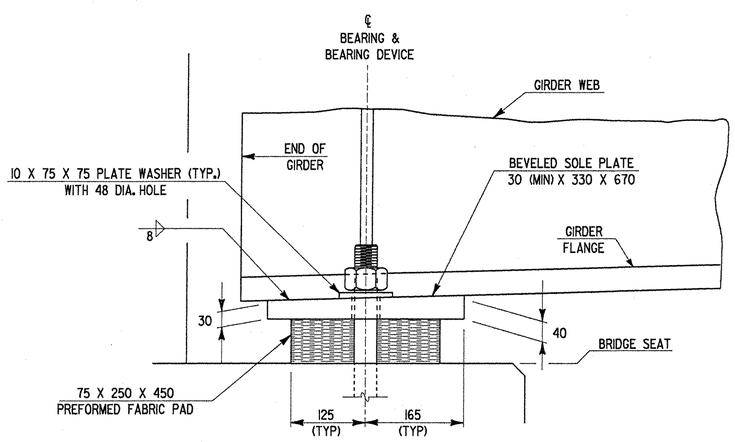
**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| SPLICE DETAILS | |
| Designed By S.JOHNSON | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J91456\2\zf184sdt.dgn | IPARM:zf184sdtJ |
| Bridge Sheet No. BRI5 | Sheet 54 of 140 |

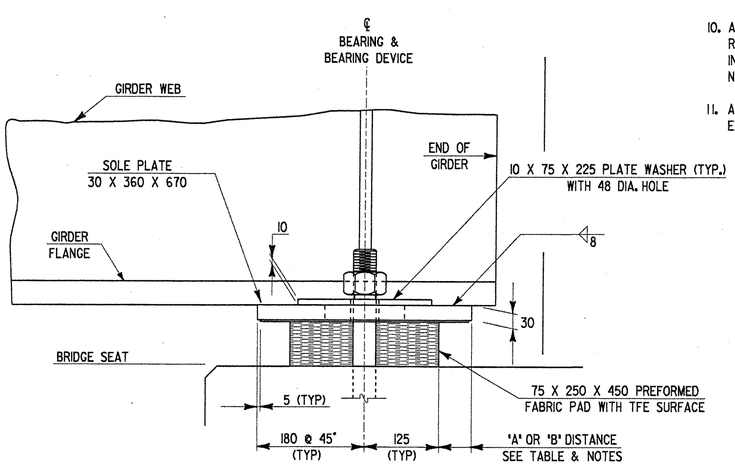
78f184/zf184SPL

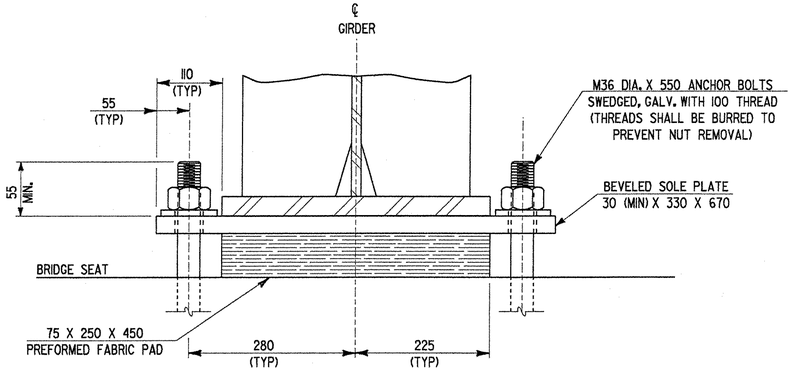



PLAN VIEW

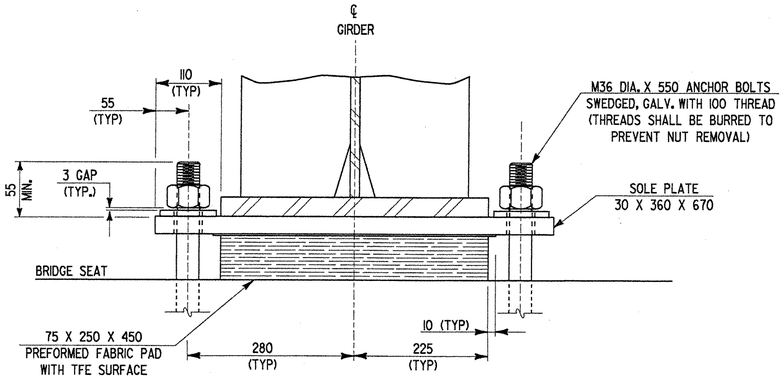



SIDE ELEVATION




FRONT VIEW




## FIXED BEARING DETAIL AT ABUTMENT NO 1

0 0.25 0.5

SCALE 1:5

## EXPANSION BEARING DETAIL AT ABUTMENT NO 2

0 0.25 0.5

SCALE 1:5

## BEARING NOTES

1. BEARINGS SHALL CONFORM TO APPLICABLE SUBSECTIONS OF SECTIONS 531 AND 731 OF THE VERMONT STATE SPECIFICATIONS DATED 1995.
2. BEARINGS SHALL BE PAID FOR UNDER THE ITEM 531.10 'BEARING DEVICE ASSEMBLY'.
3. SHOP DRAWINGS CONFORMING TO SUBSECTION 531.03 SHALL BE SUBMITTED TO INCLUDE WELDING AND BONDING PROCEDURES.
4. THE CONCRETE SURFACE UNDER THE BEARING DEVICE SHALL BE LEVEL.
5. ALL BEARING DEVICES SHALL BE GALVANIZED OR METALIZED AS PER SUBSECTION 531.04(B) AND 506.15(A) & (B). METALIZED SURFACES ARE TO BE COATED WITH AN APPROVED SEALANT PER 531.04 (b). AREAS OF DAMAGED METALLIZING OR GALVANIZING SHOULD BE REPAIRED PER SUPPLEMENTAL SPECIFICATION 513.
6. ALTERNATE CONFIGURATIONS FOR BEARINGS MAY BE SUBMITTED FOR APPROVAL. ANY ALTERNATE SUBMITTED SHALL BE DESIGNED AND CERTIFIED TO MEET THE DESIGN LOADS AND CRITERIA SHOWN ON THIS SHEET, AND SHALL MAINTAIN THE ANCHORAGE SYSTEM SHOWN.
7. BRIDGE SEAT ELEVATIONS MAY BE REVISED TO ACCOMMODATE AN ALTERNATE CONFIGURATION.
8. THE 'A' DISTANCE IS THE FINAL SETTING FOR THE BEARING PAD AFTER THE CONCRETE SLAB, CURB, PAVEMENT AND BRIDGE RAIL ARE PLACED. 'B' DISTANCE IS LISTED FOR SETTING THE BEARING AFTER THE STRUCTURAL STEEL IS ERECTED AND BEFORE THE CONCRETE DECK IS POURED. THE DIFFERENCE IS THE THEORETICAL ELONGATION OF THE BOTTOM FLANGE DUE TO DEAD LOAD DEFLECTION. THE FINAL 'A' DISTANCE AS SHOWN IN THE TABLE, MUST BE ATTAINED WITHIN 3 MM.
9. DESIGN CRITERIA:
   A. BASE PLATE TO CONCRETE DESIGN PRESSURE = 6.895 MPa MAXIMUM.
   B. MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIANS.
   C. HORIZONTAL CAPACITY SHALL BE A MINIMUM 10% OF VERTICAL LOAD.
   D. DESIGN LOAD PER BEARING = 776 kN.
10. ALL THE ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AND CONFORM TO THE REQUIREMENTS OF SECTION 714.08. ANCHOR BOLTS SHALL HAVE A MINIMUM OF 400 EMBEDMENT INTO THE CONCRETE. ALL WASHERS SHALL BE 10 PLATE (MINIMUM). PAYMENT FOR ANCHOR BOLTS, NUTS AND WASHERS SHALL BE INCLUDED IN THE UNIT BID PRICE FOR 'BEARING DEVICE ASSEMBLY'.
11. ALL STEEL IN BEARING DEVICES (EXCEPT STAINLESS), SHALL BE AASHTO M 270M GRADE 345, EXCEPT ANCHOR BOLTS WHICH SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 183M.

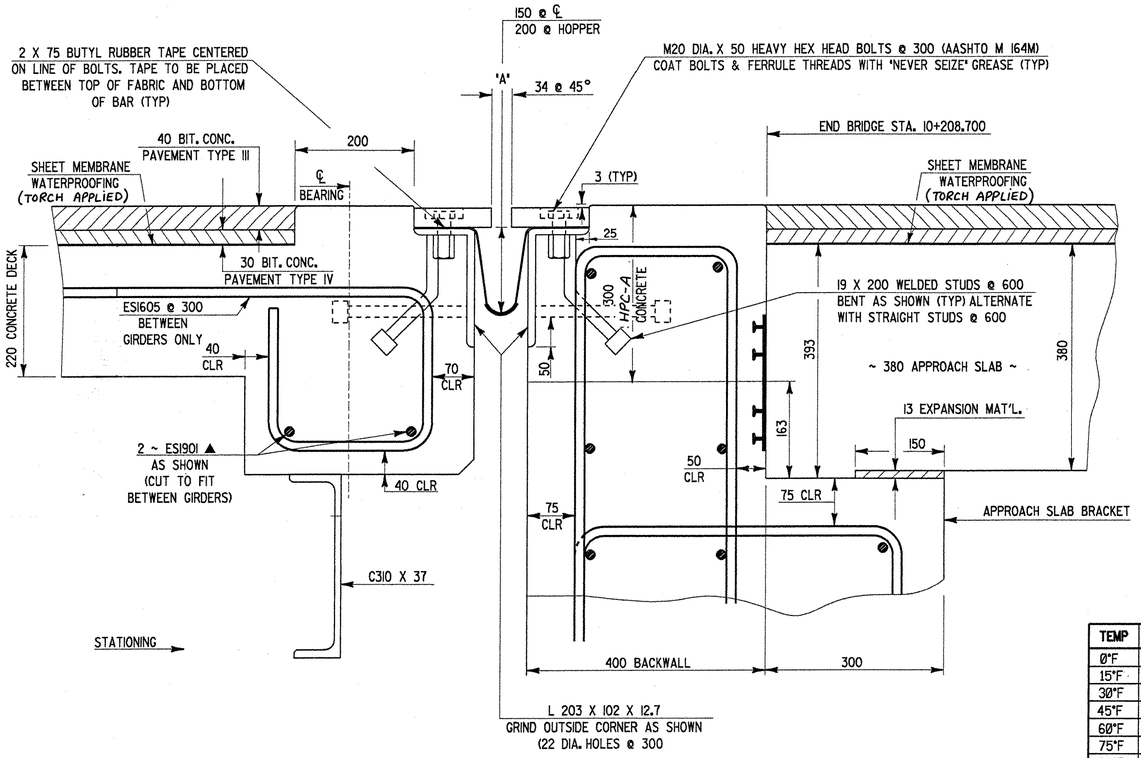
## BEARING TEMPERATURE TABLES

| ABUTMENT NO 2 | | |
|---|---|---|
| TEMP | 'A' DIST | 'B' DIST |
| 0°F | 42 | 10 |
| 15°F | 46 | 15 |
| 30°F | 51 | 19 |
| 45°F | 55 | 23 |
| 60°F | 59 | 28 |
| 75°F | 64 | 32 |
| 90°F | 68 | 36 |
| 105°F | 72 | 40 |

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| BEARING DETAILS | |
| Designed By S.JOHNSON | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. info. y:\J914562\zf184bdt.dgn | IPARM:zf184bdtJ |
| Bridge Sheet No. BR16 | Sheet 55 of 140 |

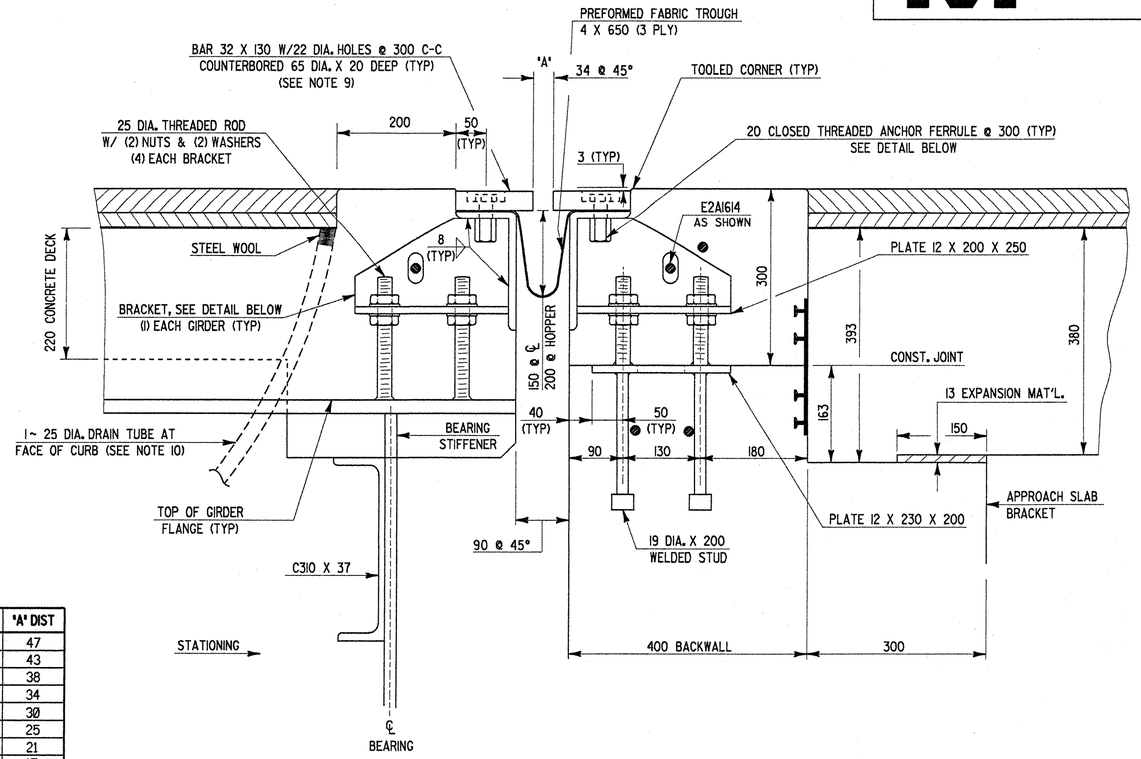
78f184/zf184BRG




| TEMP | 'A' DIST |
|---|---|
| Ø°F | 47 |
| 15°F | 43 |
| 30°F | 38 |
| 45°F | 34 |
| 60°F | 30 |
| 75°F | 25 |
| 90°F | 21 |
| 105°F | 17 |

## TYPICAL SECTION BETWEEN GIRDERS AT ABUTMENT NO. 2

0 0.25 0.5
SCALE 1:5

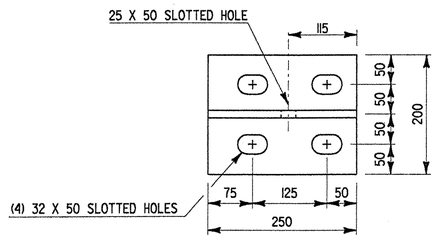



## TYPICAL SECTION AT GIRDERS AT ABUTMENT NO. 2

0 0.25 0.5
SCALE 1:5

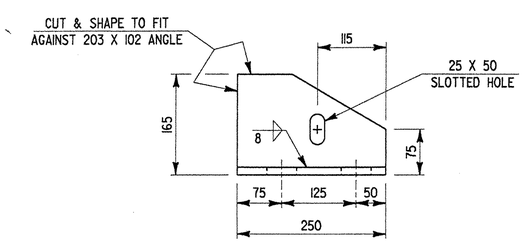
## EXPANSION JOINT NOTES:

1. DETAILS ON THIS SHEET ARE FOR ITEM 516.10 'BRIDGE EXPANSION JOINTS'.
2. PREFORMED FABRIC MATERIAL SHALL BE CONTINUOUS AND SHALL CONFORM TO SUBSECTION 707.07.
3. BUTYL RUBBER TAPE SHALL CONFORM TO AASHTO SPECIFICATION M-198, TYPE B.
4. THE FINAL FINISH OF THE EXPANSION DEVICE SHALL BE COVERED DURING THE PLACING OF BRIDGE DECK CONCRETE.
5. ALL STEEL COMPONENTS SHALL BE AASHTO M 270M GRADE 250 GALVANIZED OR METALIZED AS PER SUBSECTION 506.15 (a) OR (b) UNLESS OTHERWISE NOTED.
6. THE ITEM 'BRIDGE EXPANSION JOINT' SHALL INCLUDE THE FABRICATION AND ERECTION OF THE COMPLETE JOINT ASSEMBLY INCLUDING ALL STEEL PLATES, DOWNSPOUTS, BRACKETS, ANGLES, WELDED STUDS OR RODS, PREFORMED FABRIC DRAIN TROUGH MATERIAL AND PLASTIC DRAIN TUBES, BUTYL RUBBER TAPE AND ANY OTHER MISCELLANEOUS MATERIAL.
7. THE 203 X 102 X 12 ANGLES SHALL BE FURNISHED AS ONE CONTINUOUS PIECE (NO SPLICES). THE 32 X 130 BARS SHALL BE PROVIDED IN TWO EQUAL LENGTHS.
8. COAT CONCRETE CONTACT SURFACES (EXCEPT THOSE DESCRIBED IN NOTE 9) WITH AN EPOXY BONDING COMPOUND MEETING THE REQUIREMENTS OF SUBSECTION 719.02. PAYMENT SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 516.10 'BRIDGE EXPANSION JOINTS'.
9. FILL COUNTERBORED HOLES WITH HOT POURED JOINT SEALER, (PER STD. SPEC. 707.04). PAYMENT FOR THIS WORK SHALL BE SUBSIDIARY TO ITEM 516.10.
10. A 25 DIAMETER PLASTIC DRAIN TUBE, (PER STD. SEPC. 707.06), SHALL BE INSTALLED AS SHOWN AT THE FACE OF CURB. THE UPPER END IS TO BE PLUGGED WITH STEEL WOOL AND THE LOWER END IS TO EXTEND BELOW THE BOTTOM OF THE ADJACENT GIRDER. THE DRAIN TUBES SHALL BE FASTENED TO THE GIRDERS USING A METHOD APPROVED BY THE ENGINEER.
11. PAYMENT FOR WATERSTOP SHALL BE SUBSIDIARY TO CONCRETE PAY ITEM.
12. A DRIP BEAD OF 6 X 180 STRIP OF PREFORMED FABRIC MATERIAL SHALL BE CEMENTED TO THE BOTTOM OF THE FABRIC TROUGH USING AN ADHESIVE APPROVED BY THE MANUFACTURER. THE DRIP BEAD SHALL BE APPLIED 25 FROM THE HOPPER END OF THE TROUGH.




## BRACKET PLAN

0 0.25 0.5
SCALE 1:5




## BRACKET ELEVATION

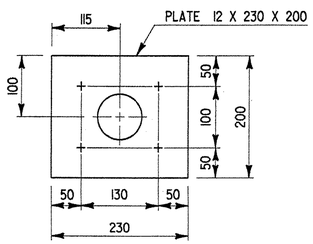
0 0.25 0.5
SCALE 1:5

## ANCHOR FERRULE DETAIL

SCALE: 1:2

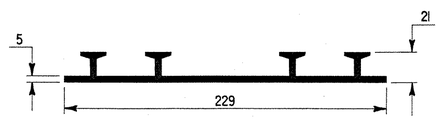
NOTE:
CLOSED THREADED FERRULE NUTS WITHOUT ANCHOR LOOPS MAY BE USED.

ALL PLATES 12




## PLATE PLAN VIEW

0 0.25 0.5
SCALE 1:5



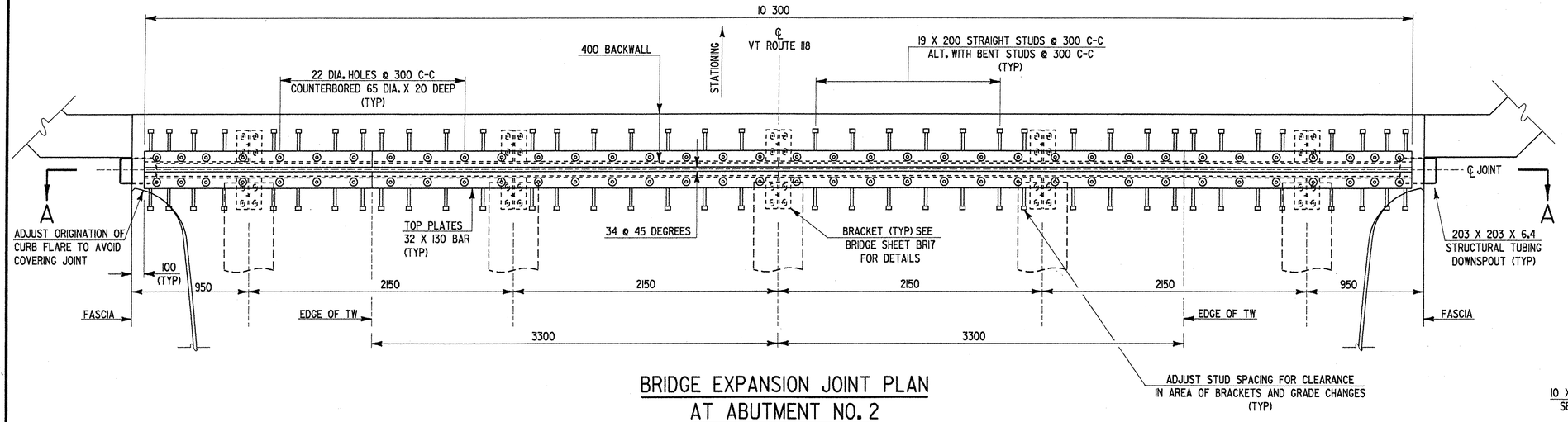

## P. V. C. WATERSTOP FOR CONSTRUCTION JOINTS

THE COSTS FOR P. V. C. WATERSTOP SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE. OTHER CONFIGURATIONS MAY BE USED UPON APPROVAL OF THE STRUCTURES ENGINEER.

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

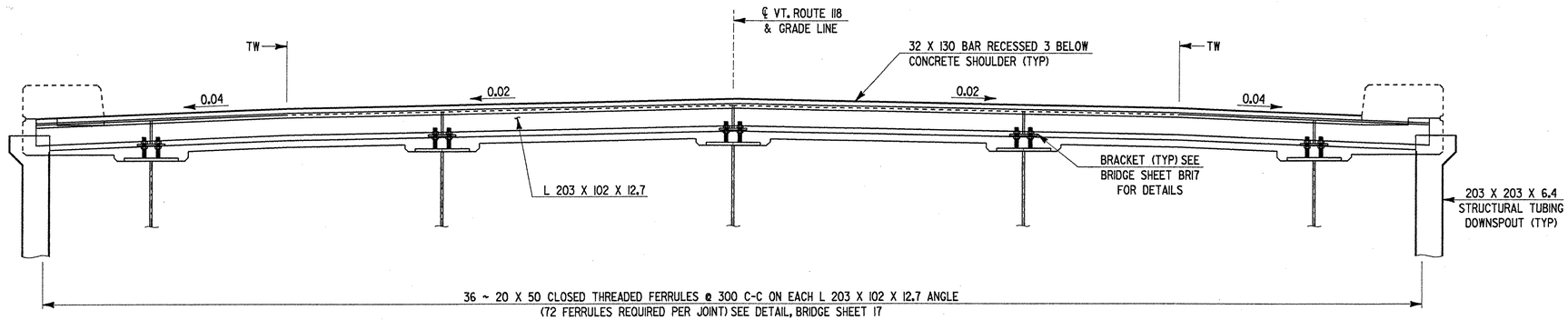
| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| EXPANSION JOINT DETAILS SHEET - 1 | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J914562\zf184jdl.dgn | IPARMzf184jdlj |
| Bridge Sheet No. BR17 | Sheet 56 of 140 |

78f184/zf184JT1



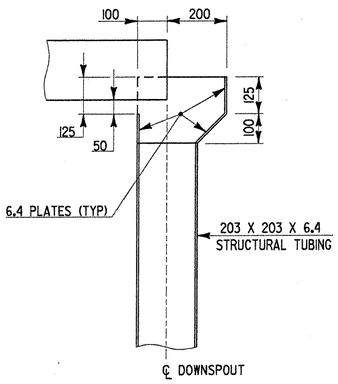

## BRIDGE EXPANSION JOINT PLAN AT ABUTMENT NO. 2

0 1 2
SCALE 1:20



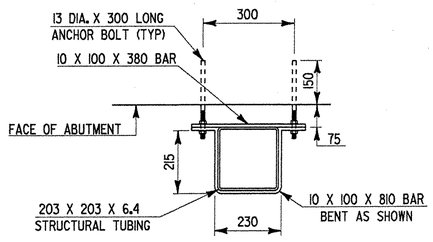

## SECTION A-A

0 1 2
SCALE 1:20



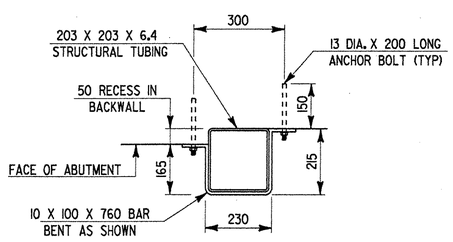

## SECTION THROUGH DOWNSPOUT

0 0.5 1
SCALE 1:10



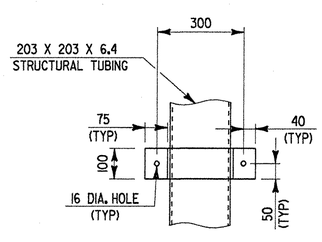

## DETAIL FOR ATTACHING DOWNSPOUT TO ABUTMENT

0 0.5 1
SCALE 1:10



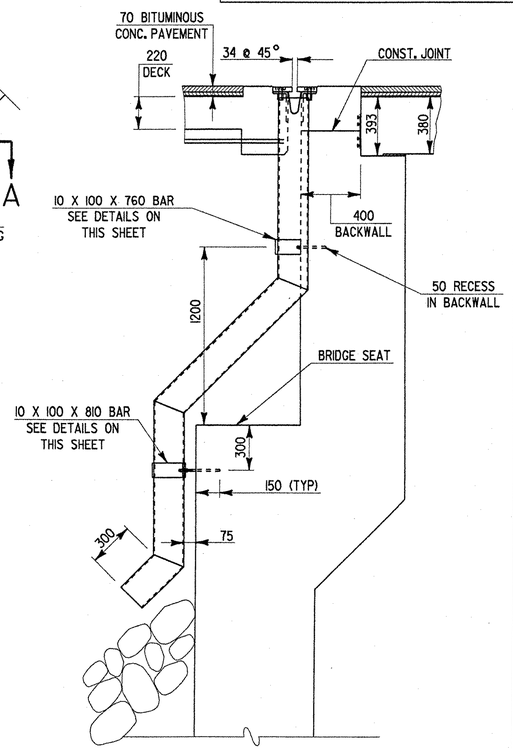

## DETAIL FOR ATTACHING DOWNSPOUT TO BACKWALL

0 0.5 1
SCALE 1:10



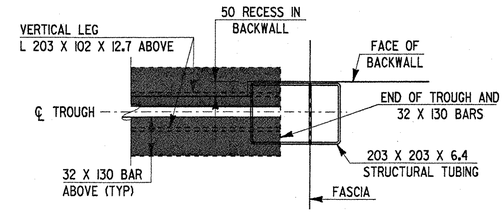

## ELEVATION VIEW

0 0.5 1
SCALE 1:10




## DOWNSPOUT DETAILS

0 1 2
SCALE 1:20



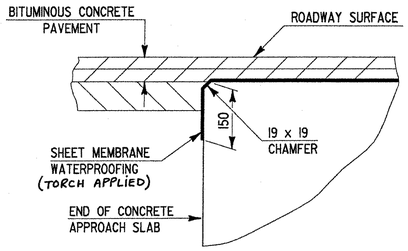

## PLAN VIEW OF DECK BOXOUT FOR DOWNSPOUT

0 0.5 1
SCALE 1:10

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

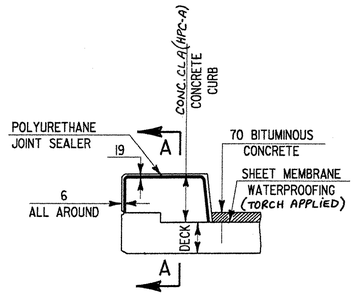
| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| | Log Sta. |
| Highway No. VT. ROUTE 118 | Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| EXPANSION JOINT DETAILS SHEET - 2 | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. info. y:\J914562\zf184\d2.dgn | IPARM:zf184jd2j |
| Bridge Sheet No. BRI8 | Sheet 57 of 140 |

78f184/zf184JT2



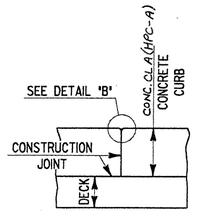

## DETAIL FOR SHEET MEMBRANE AT APPROACH SLAB ENDS

NOT TO SCALE



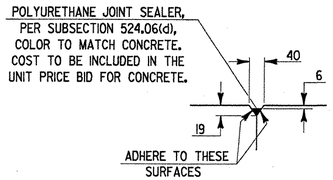

## TYPICAL SECTION THROUGH CONCRETE CURB CONSTRUCTION JOINT

NOT TO SCALE




## SECTION A - A

NOT TO SCALE

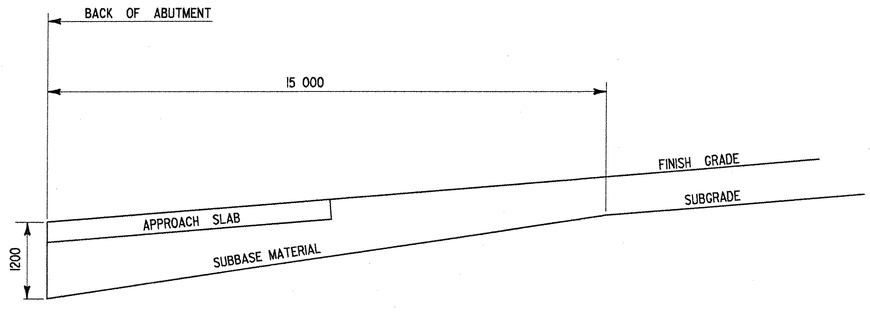



## DETAIL "B"

NOT TO SCALE

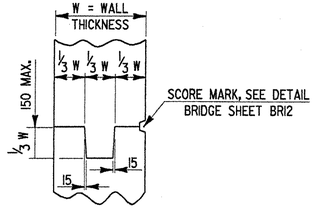
## CONCRETE CURB CONSTRUCTION JOINT NOTES:

1. CONSTRUCTION JOINTS THROUGH CONCRETE CURBS SHALL BE SPACED MAXIMUM 4500 CENTER TO CENTER AND SHALL BE 500 MINIMUM FROM THE CENTER OF THE NEAREST BRIDGE RAIL POST. CONCRETE SHALL BE PLACED IN ALTERNATING SECTIONS WITH A MINIMUM OF 48 HOURS DELAY BETWEEN ADJACENT POURS.
2. LONGITUDINAL REINFORCING SHALL PASS THROUGH CONCRETE CURB CONSTRUCTION JOINTS.
3. POLYURETHANE JOINT SEALER AND BLAST CLEANING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 524.21.
4. SHEET MEMBRANE WATERPROOFING SHALL EXTEND TO FACE OF CURB AS SHOWN ABOVE LEFT.
5. ALL CONCRETE IN CURBS SHALL BE CONCRETE, CLASS A (HPC-A)



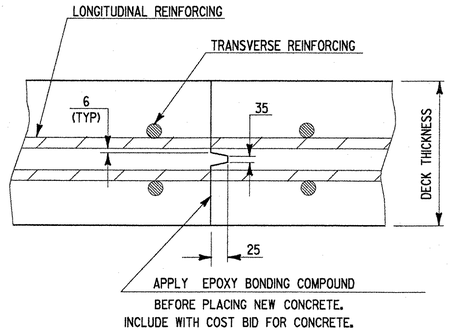

## SUBBASE DETAIL AT ABUTMENTS

NOT TO SCALE



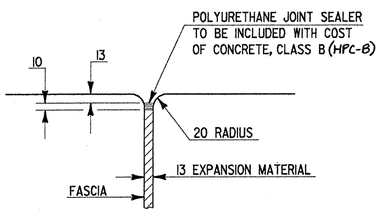

## TYPICAL CONCRETE CONSTRUCTION JOINT

NOT TO SCALE



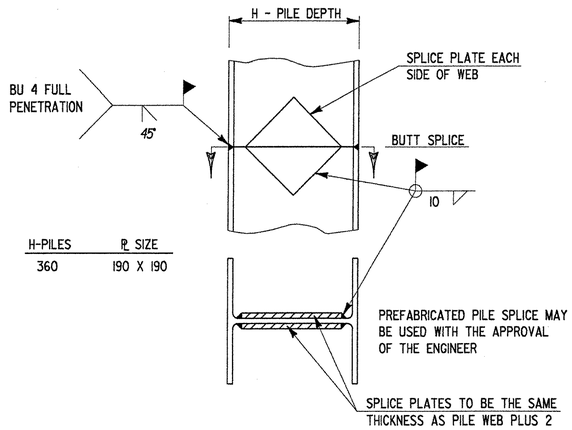

## TRANSVERSE BRIDGE SLAB CONSTRUCTION JOINT DETAILS

NOT TO SCALE




## JOINT BETWEEN FASCIA AND WINGWALL

NOT TO SCALE




## DETAIL OF PILE SPLICE

NOT TO SCALE

## PILE SPLICE NOTES:

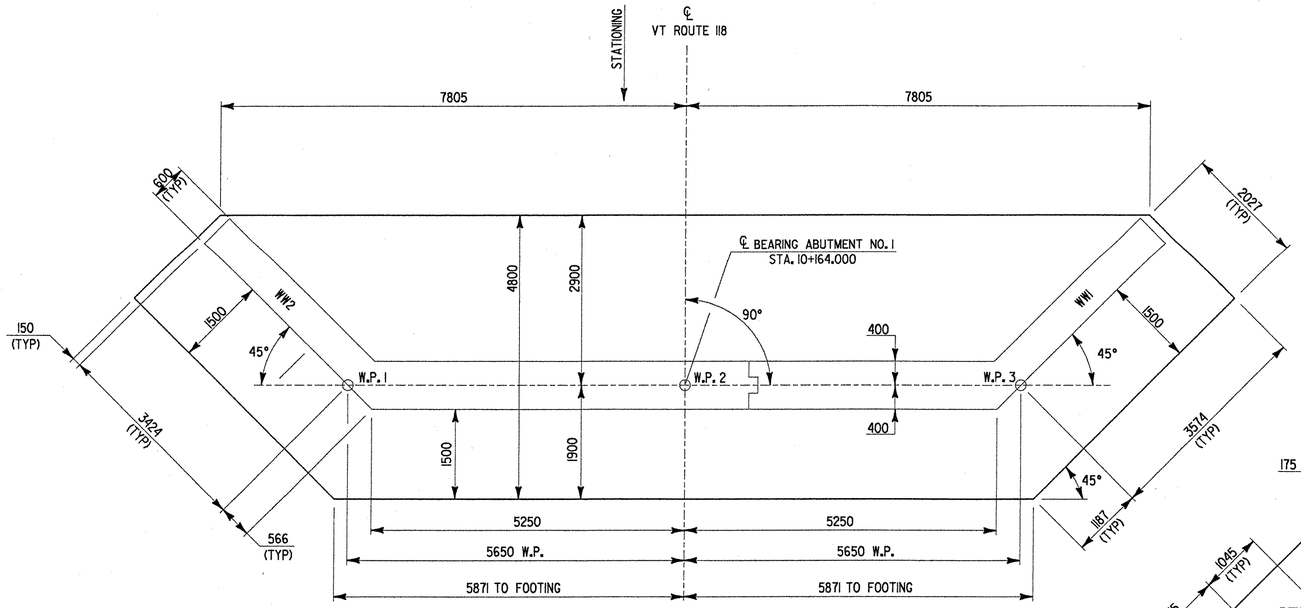
1. STEEL PILING SHALL BE ROLLED STEEL SECTIONS PER STANDARD SPECIFICATION 730.
2. PILES, SPLICE PLATES AND POINT REINFORCEMENT SHALL BE NEW MATERIAL (PER STANDARD SPECIFICATION 730) CONFORMING TO THE REQUIREMENTS OF AASHTO M 270M, GRADE 250.
3. FOR ADDITIONAL INFORMATION SEE NOTE 24, BRIDGE SHEET 1.

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| MISCELLANEOUS DETAILS | |
| Designed By S.JOHNSON | Drawn By S.DELIA |
| Checked By S.JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J914562\zf184mdt.dgn | IPARM:zf184mdt1 |
| Bridge Sheet No. BRI9 | Sheet 58 of 140 |

78f184/zf184MSC

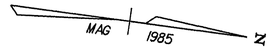
VAOT Metric

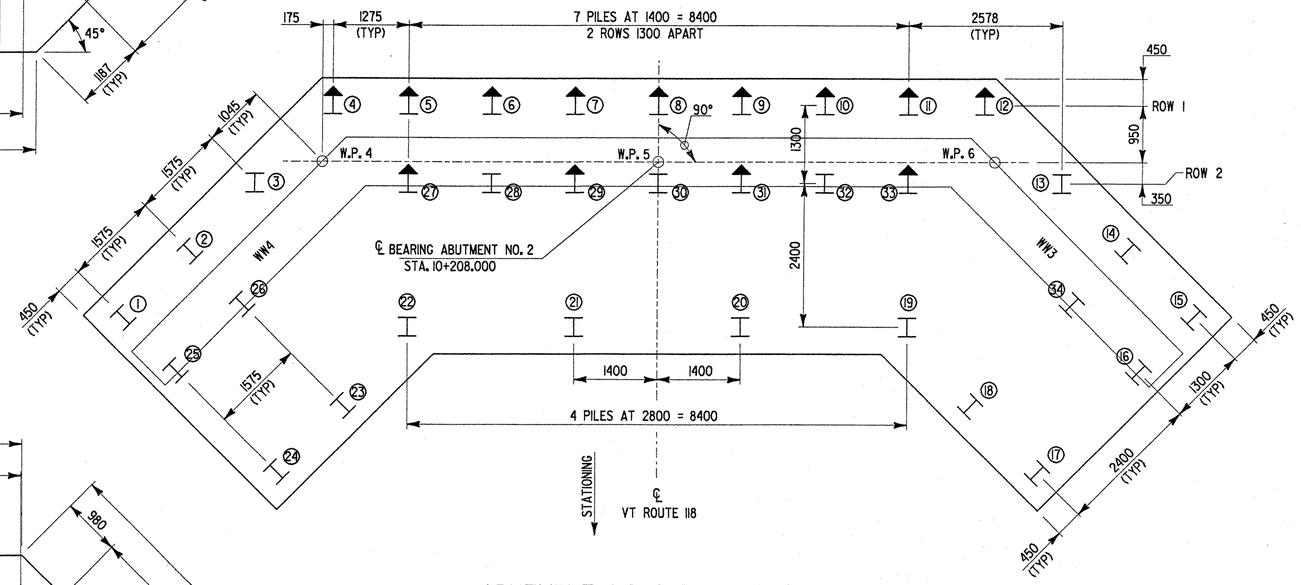



## ABUTMENT NO. 1 FOOTING PLAN

0 1 2 3 4 5

SCALE 1:50

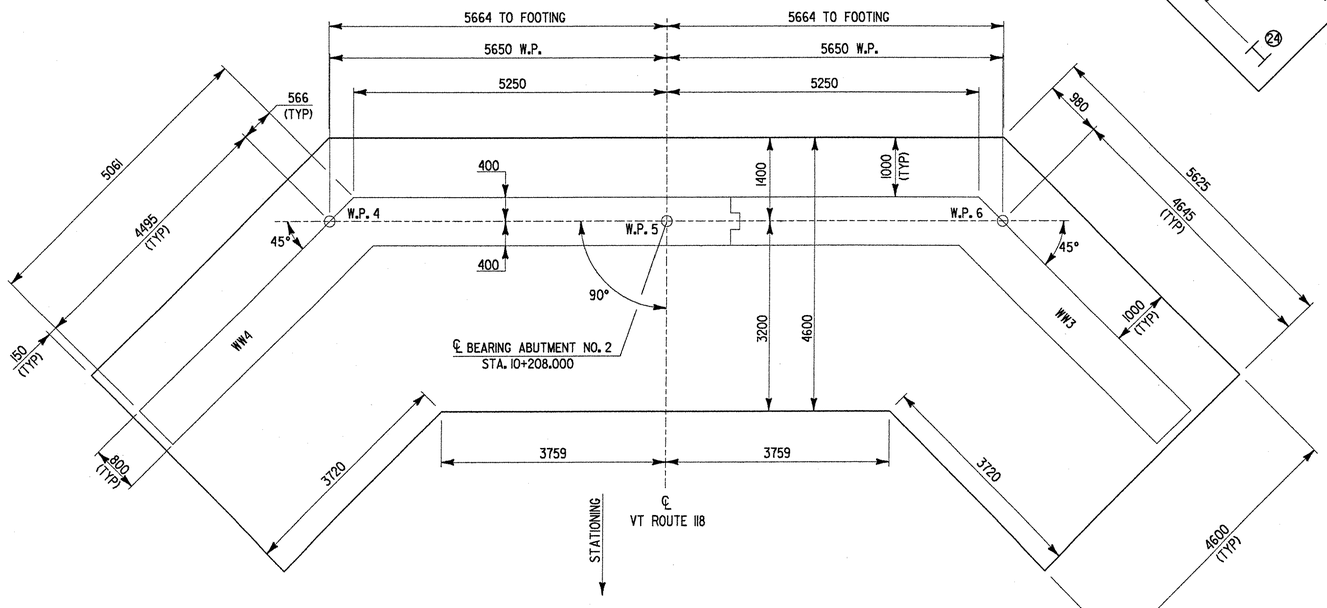



## ABUTMENT NO. 2 PILE LAYOUT

0 1 2 3 4 5

SCALE 1:50




## ABUTMENT NO. 2 FOOTING PLAN

0 1 2 3 4 5

SCALE 1:50

I - VERTICAL HP 360 X 108 PILE

I - 10N 5 BATTERED HP 360 X 108 PILE

⑩ - PILE NUMBER

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

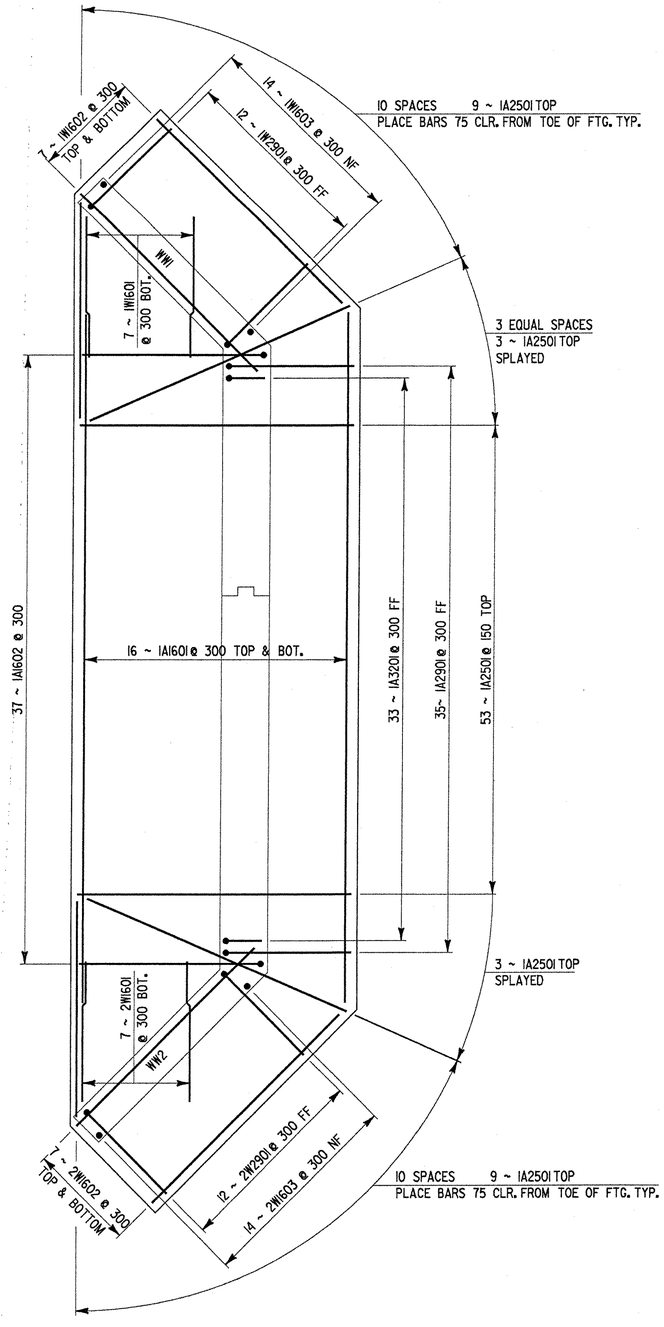
| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| | Log Sta. |
| Highway No. VT. ROUTE 118 | Surv. Sta. |

VT. ROUTE 118 OVER TROUT RIVER

ABUTMENT NO. 1 & NO. 2 FOOTING LAYOUT

| | |
|---|---|
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| L.G.C. info. y:\J9I4562\zf184fml.dgn | IPARM:zf184fml1 |
| Bridge Sheet No. BR20 | Sheet 59 of 140 |

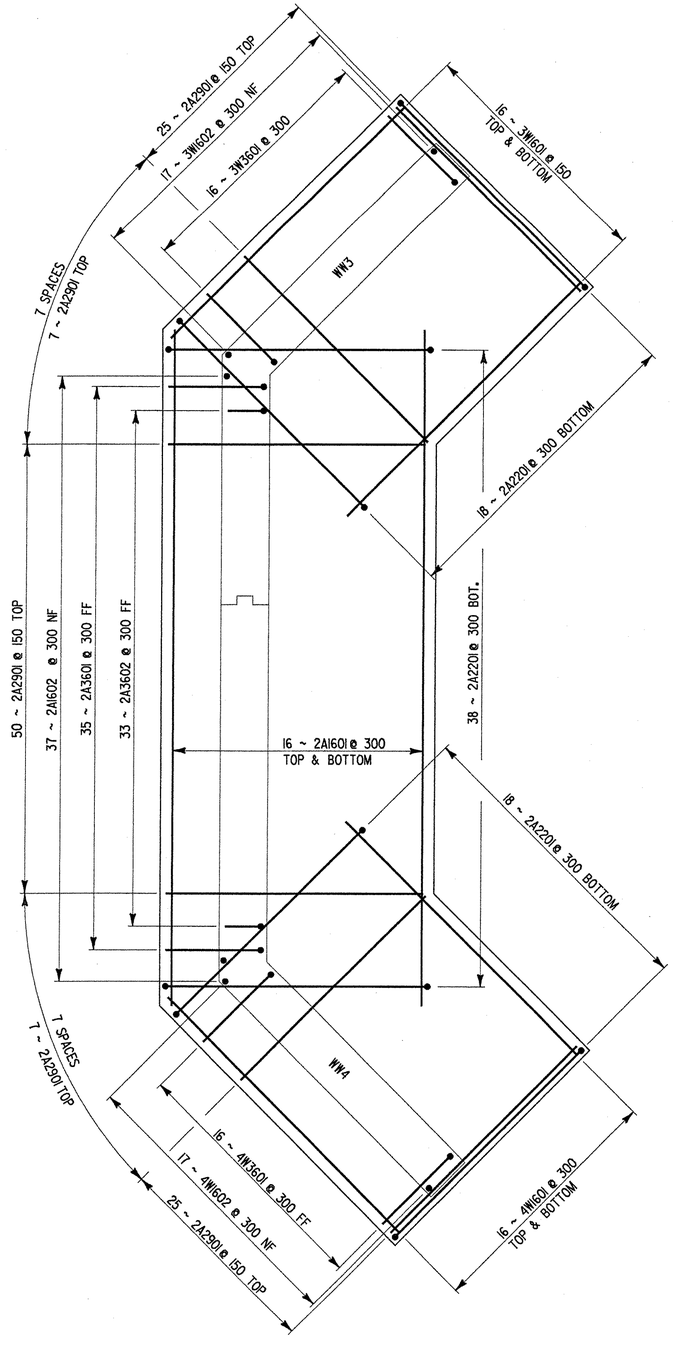
78f184/zf184FT1




## ABUTMENT NO. 1
## FOOTING PLAN

0 1 2 3 4 5

SCALE 1:50




## ABUTMENT NO. 2
## FOOTING PLAN

0 1 2 3 4 5

SCALE 1:50

N

MAG 1985

VAOT Metric

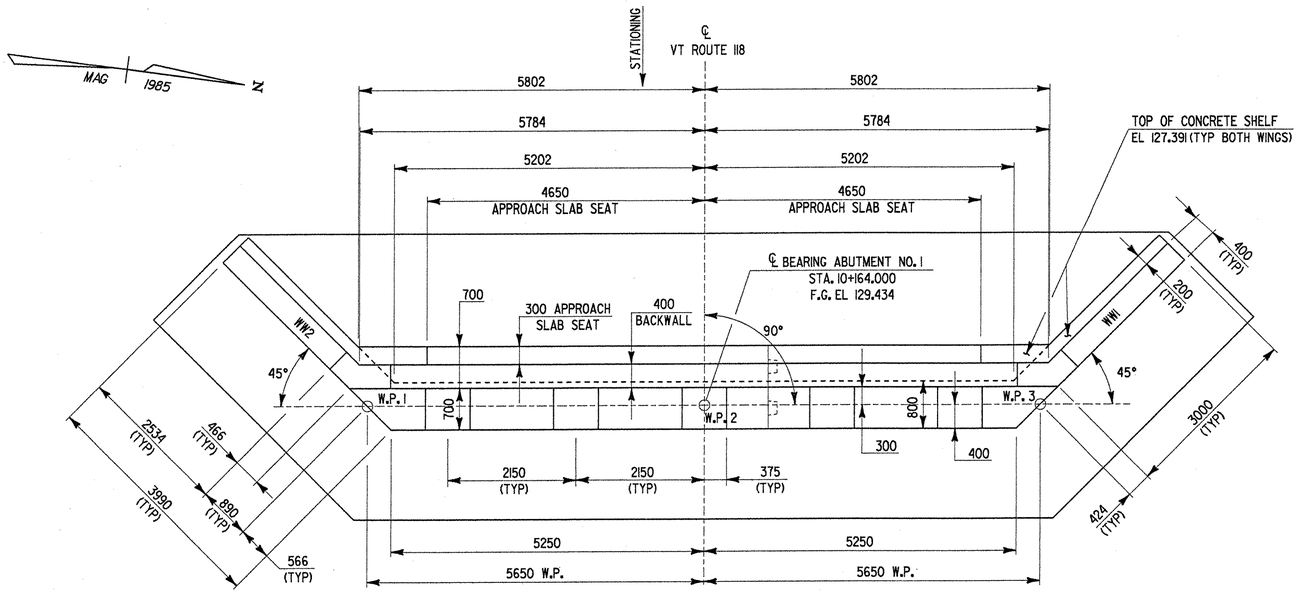
**NOTE:**

NF = NEAR FACE
FF = FAR FACE
EF = EACH FACE
▲ = CUT TO FIT IN FIELD
75 CLR. UNLESS OTHERWISE SPECIFIED ON THE PLANS.

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| | Log Sta. |
| Highway No. VT. ROUTE 118 | Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| ABUTMENT NO. 1 & NO. 2 FOOTING REINFORCING | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. info. y:\J9\4562\zf184fr1.dgn | IPARM:zf184fr1J |
| Bridge Sheet No. BR21 | Sheet 60 of 140 |

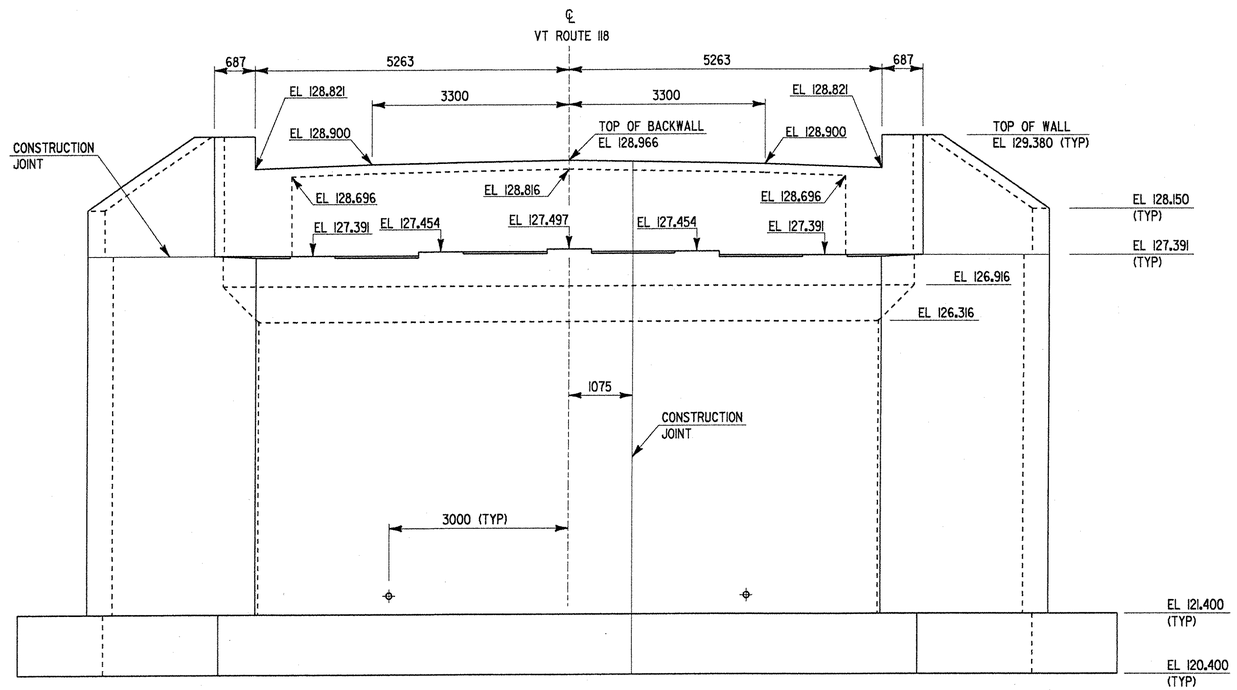
78f184/zf184RF1




## ABUTMENT NO. 1 PLAN

0 1 2 3 4 5

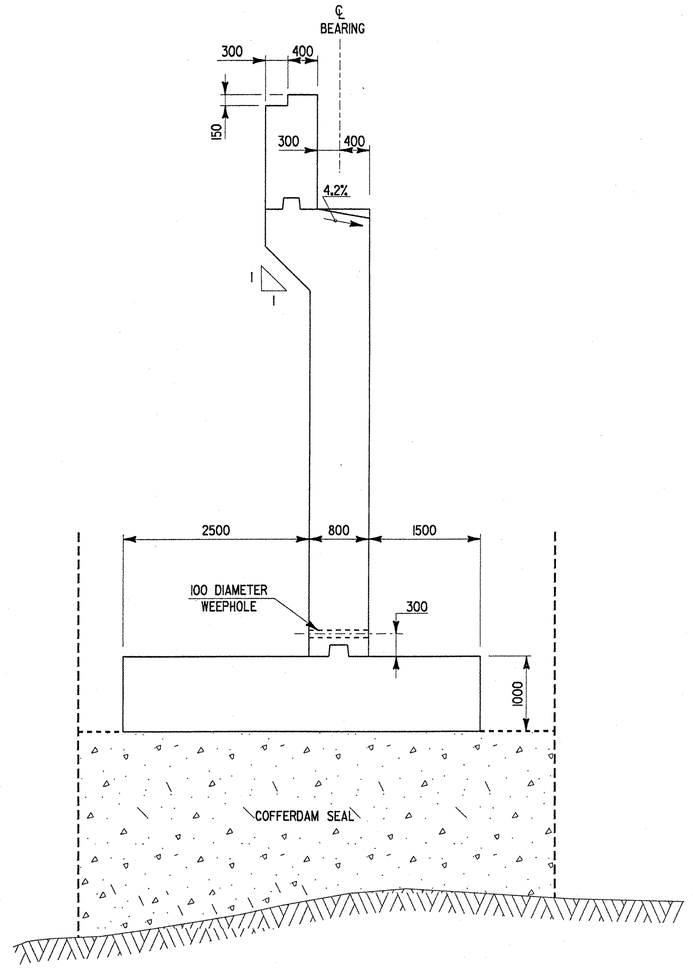
SCALE 1:50




## ABUTMENT NO. 1 ELEVATION

0 1 2 3 4 5

SCALE 1:50




## ABUTMENT NO. 1 TYPICAL SECTION

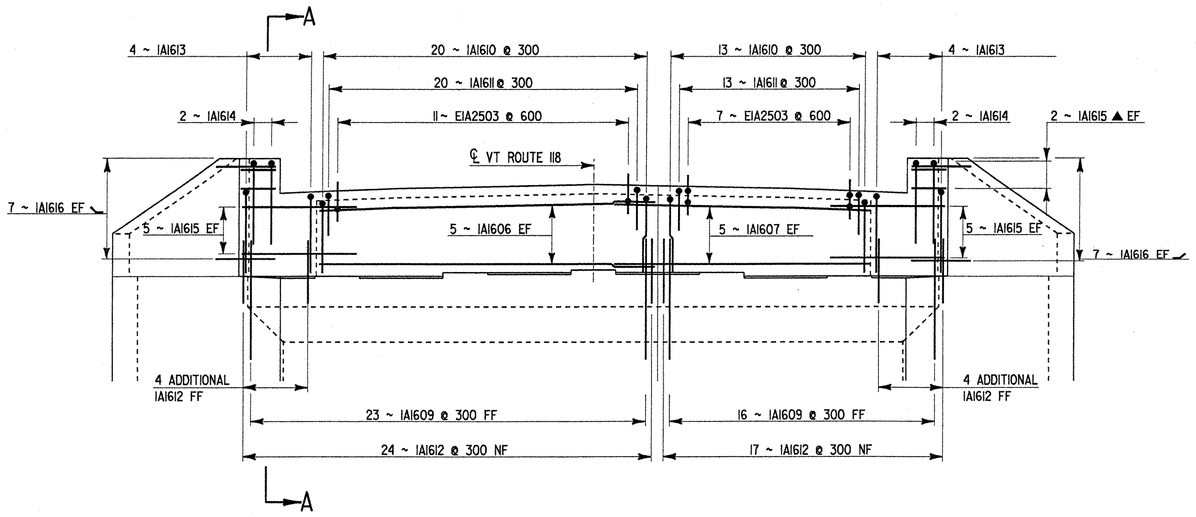
0 1 2 3 4

SCALE 1:40

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| ABUTMENT NO. 1 PLAN AND ELEVATION | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9\4562\zf184aml.dgn | IPARM:zf184aml1 |
| Bridge Sheet No. BR22 | Sheet 61 of 140 |

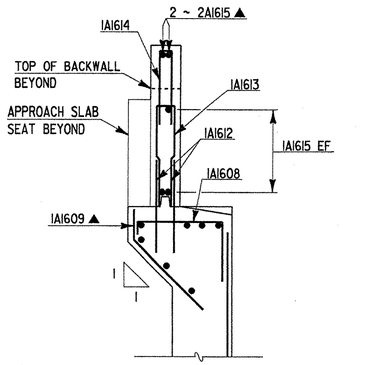
78f184/zf184AB1




## ABUTMENT NO. 1 BACKWALL ELEVATION

0 1 2 3 4 5

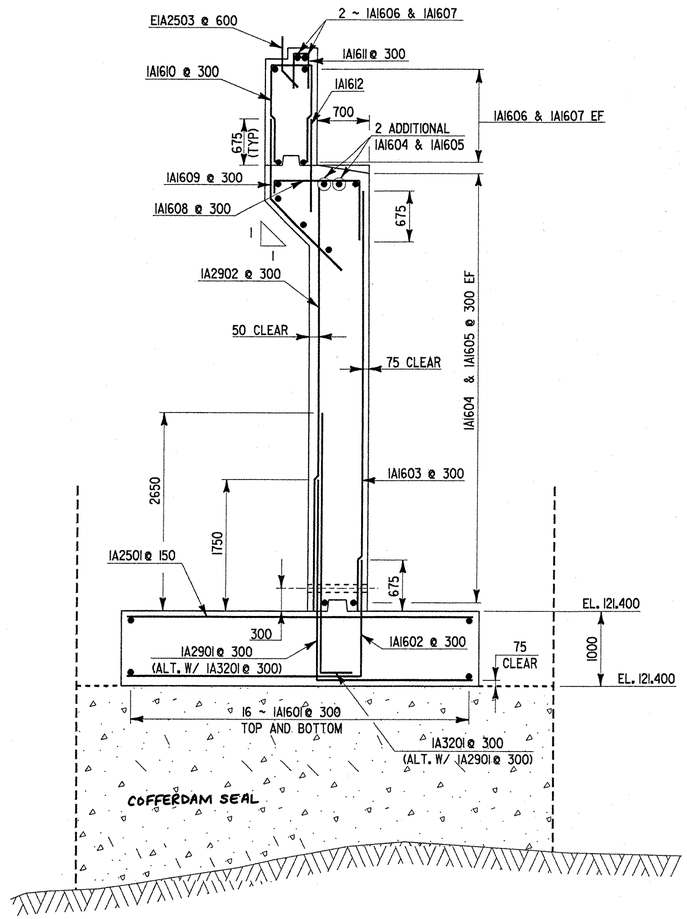
SCALE 1:50




## SECTION A-A

0 1 2 3 4

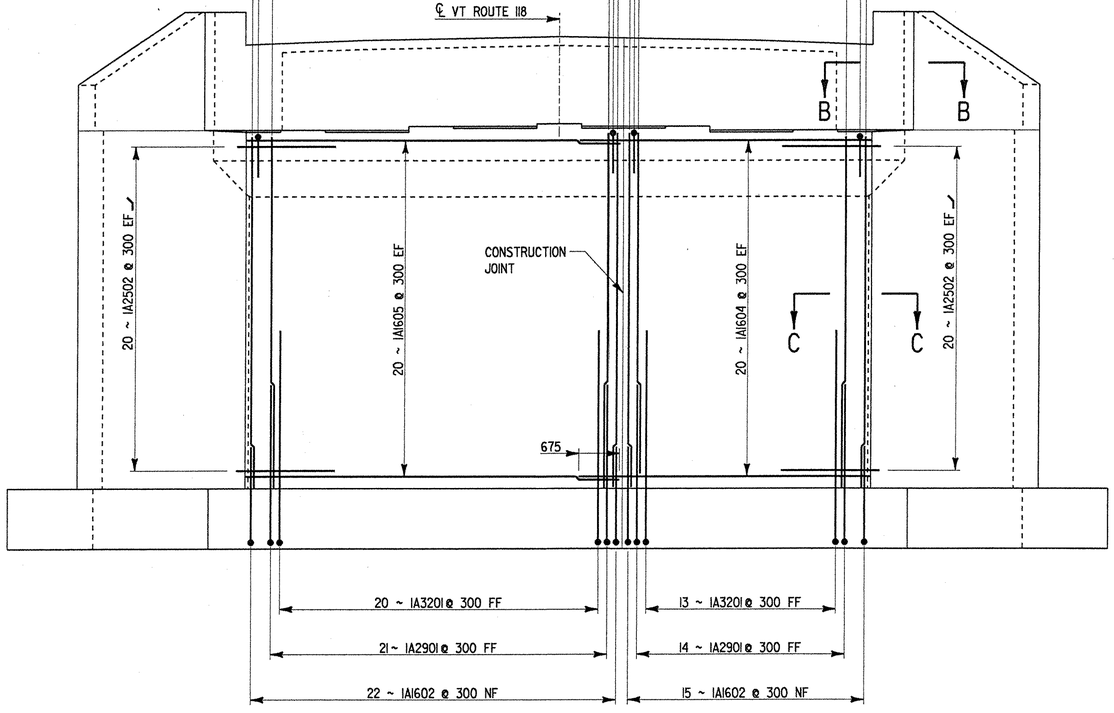
SCALE 1:40




## ABUTMENT NO. 1 TYPICAL SECTION

0 1 2 3 4

SCALE 1:40




## ABUTMENT NO. 1 ELEVATION

0 1 2 3 4 5

SCALE 1:50

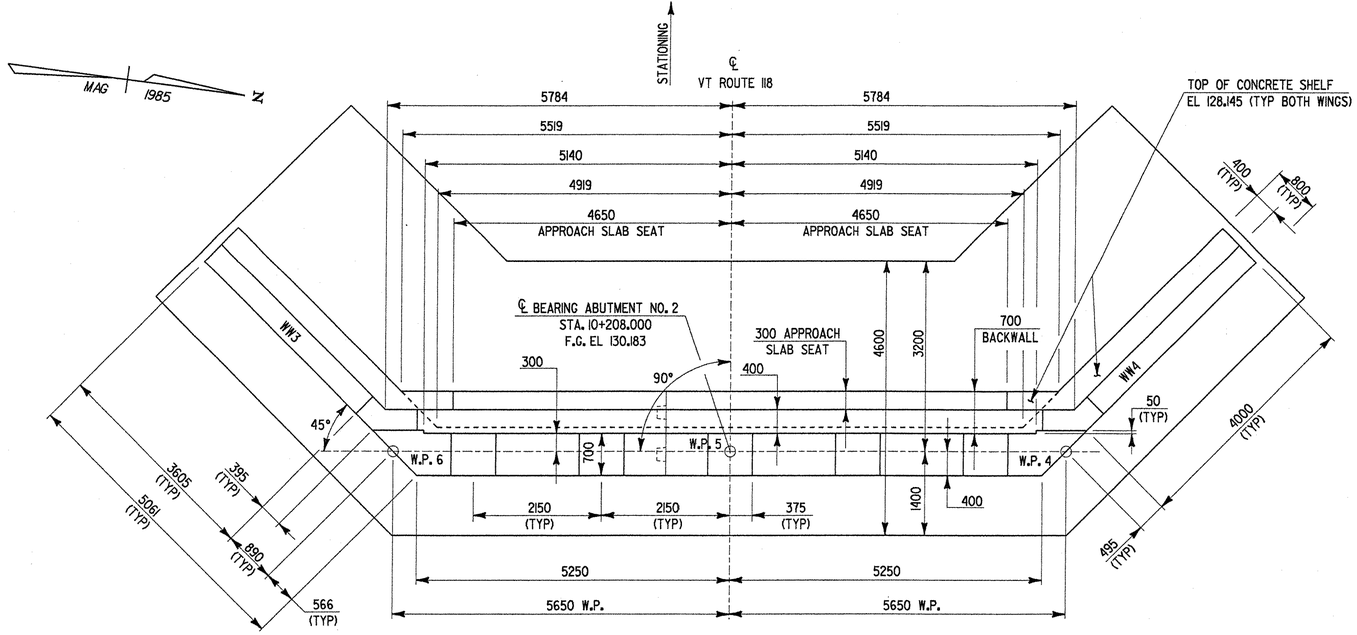
### NOTES:

1. FF = FAR FACE
2. NF = NEAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 75 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. FOR SECTIONS B-B & C-C SEE BRIDGE SHEET BR26

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

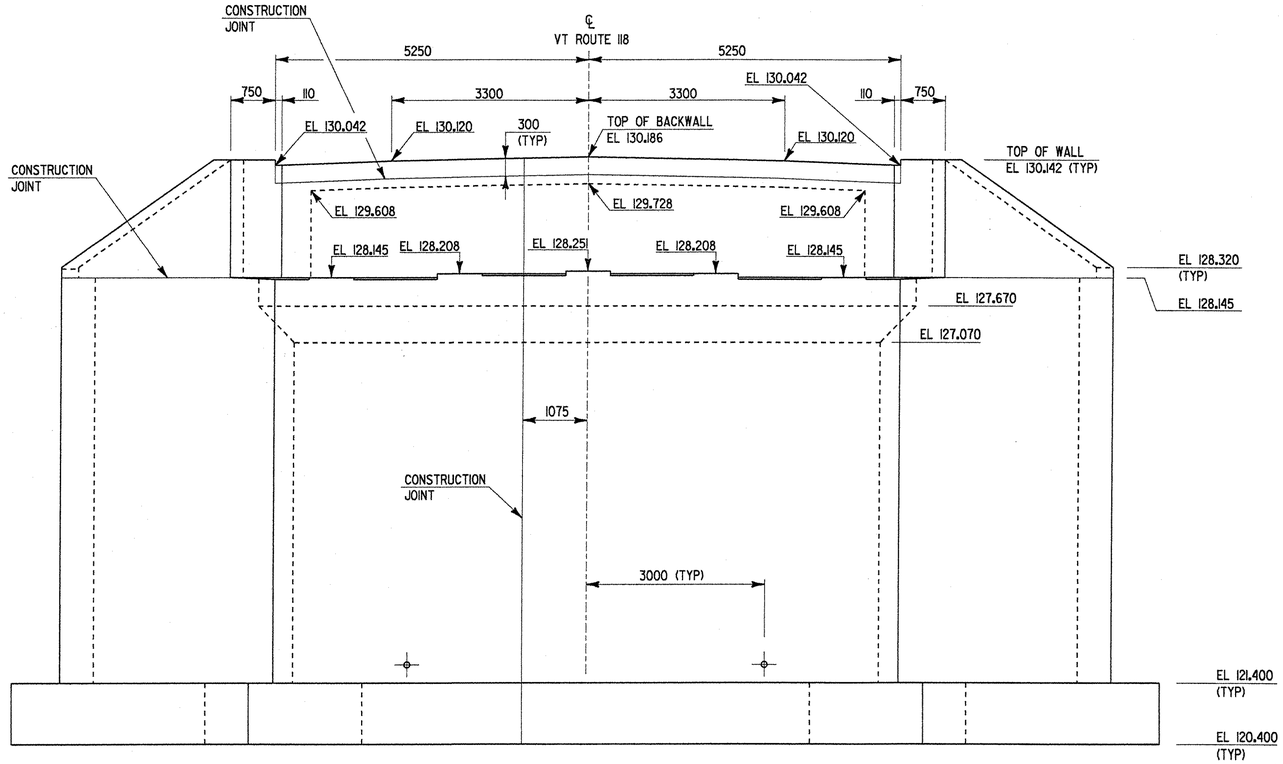
| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| | Log Sta. |
| Highway No. VT. ROUTE 118 | Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| ABUTMENT NO. 1 REINFORCING | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON — Date 02/00 | Bridge Design Supervisor — Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J914562\zf184ar1.dgn | IPARM\zf184ar1.1 |
| Bridge Sheet No. BR23 | Sheet 62 of 140 |

78f184/zf184AR1



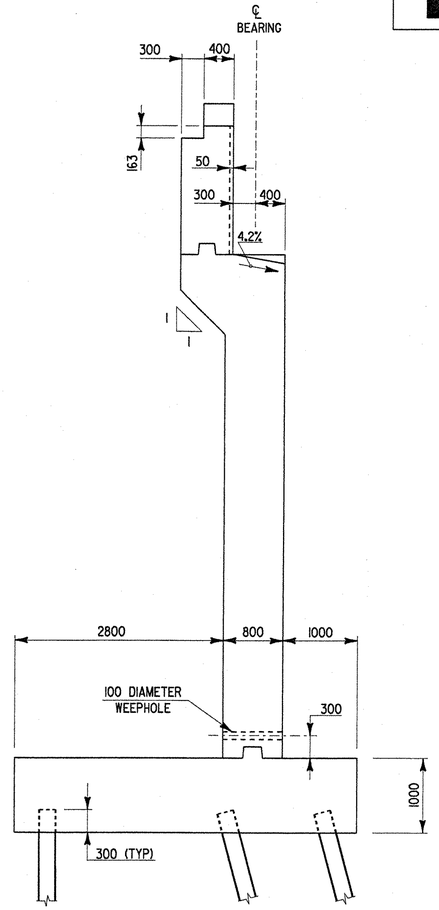

## ABUTMENT NO. 2 PLAN

0 1 2 3 4 5
SCALE 1:50




## ABUTMENT NO. 2 ELEVATION

0 1 2 3 4 5
SCALE 1:50



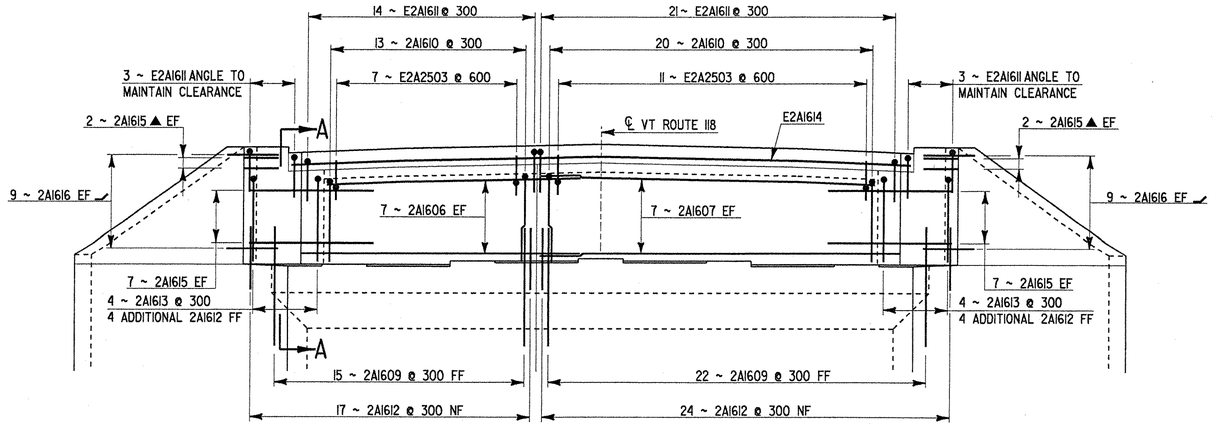

## ABUTMENT NO. 2 TYPICAL SECTION

0 1 2 3 4
SCALE 1:40

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| ABUTMENT NO. 2 PLAN AND ELEVATION | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. info. y:\J914562\zf184am2.dgn | IPARM:zf184am2J |
| Bridge Sheet No. BR24 | Sheet 63 of 140 |

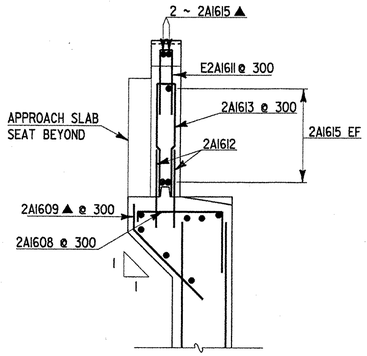
78f184/zf184AB2




## ABUTMENT NO. 2 BACKWALL ELEVATION

0 1 2 3 4 5

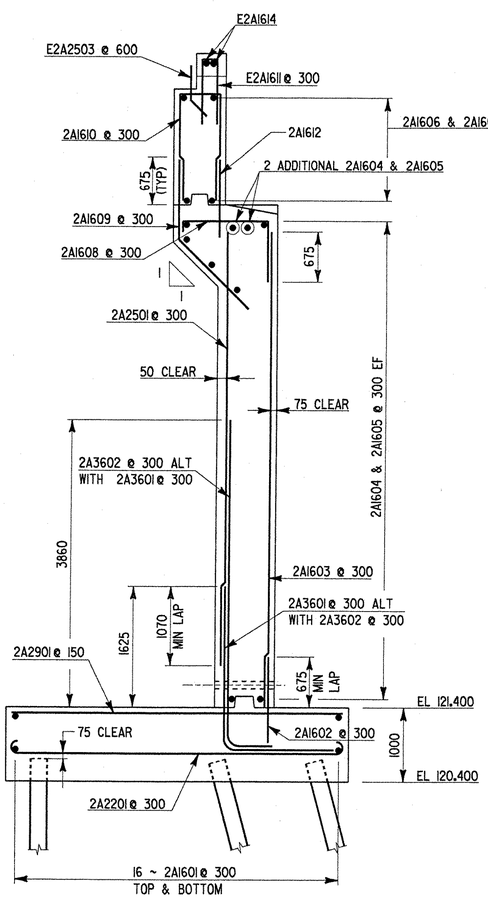
SCALE 1:50




## SECTION A-A

0 1 2 3 4

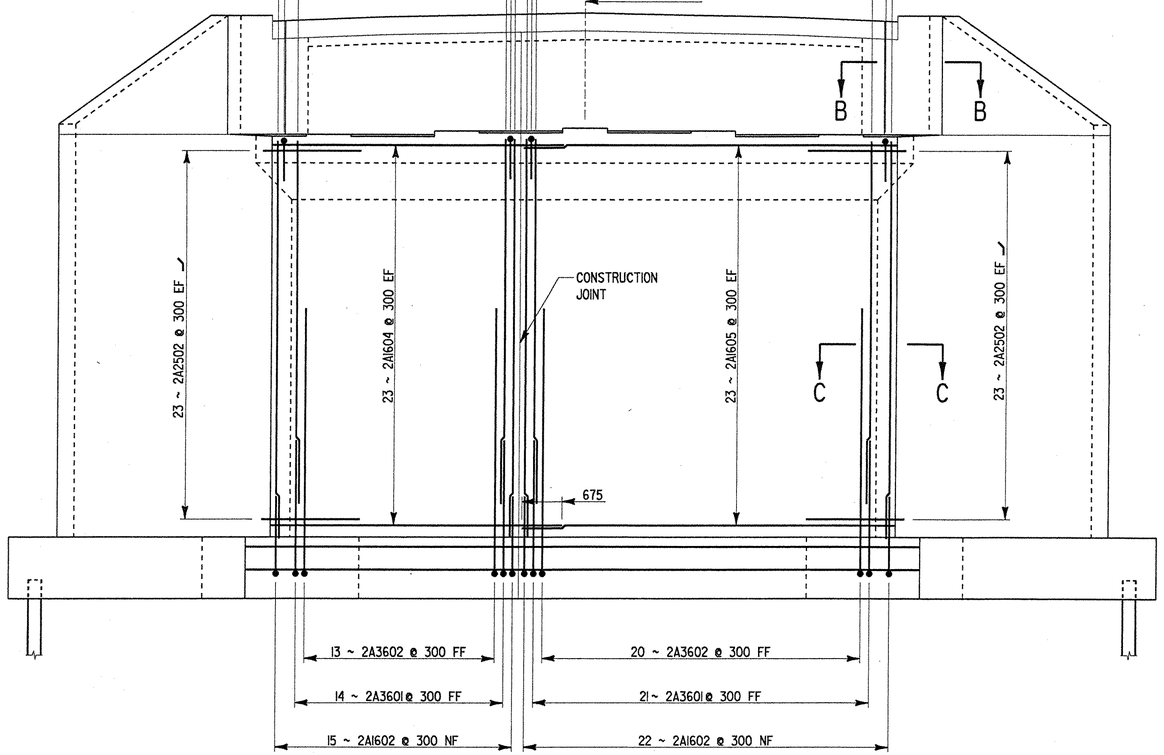
SCALE 1:40




## ABUTMENT NO. 2 TYPICAL SECTION

0 1 2 3 4

SCALE 1:40




## ABUTMENT NO. 2 ELEVATION

0 1 2 3 4 5

SCALE 1:50

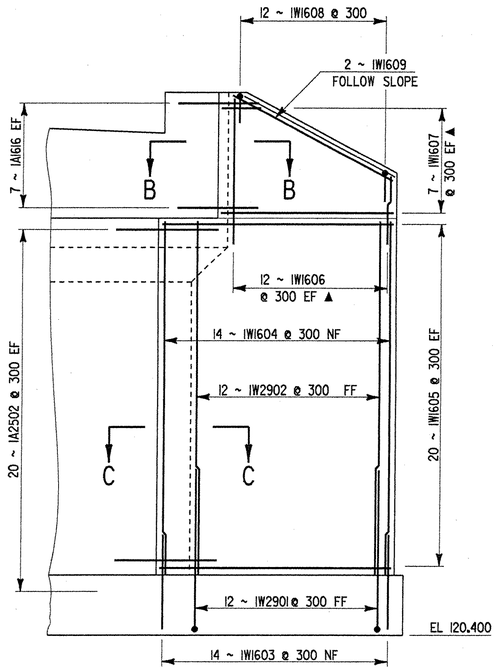
**NOTES:**

1. FF = FAR FACE
2. NF = NEAR FACE
3. EF = EACH FACE
4. ▲ = CUT TO FIT IN FIELD
5. 75 CLEAR UNLESS OTHERWISE SPECIFIED ON THE PLANS
6. FOR SECTIONS B-B & C-C SEE BRIDGE SHEET BR26

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| ABUTMENT NO. 2 REINFORCING | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON Date 02/00 | Bridge Design Supervisor Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9141562\zf184ar2.dgn | IPARM:zf184ar2J |
| Bridge Sheet No. BR25 | Sheet 64 of 140 |

78f184/zf184AR2

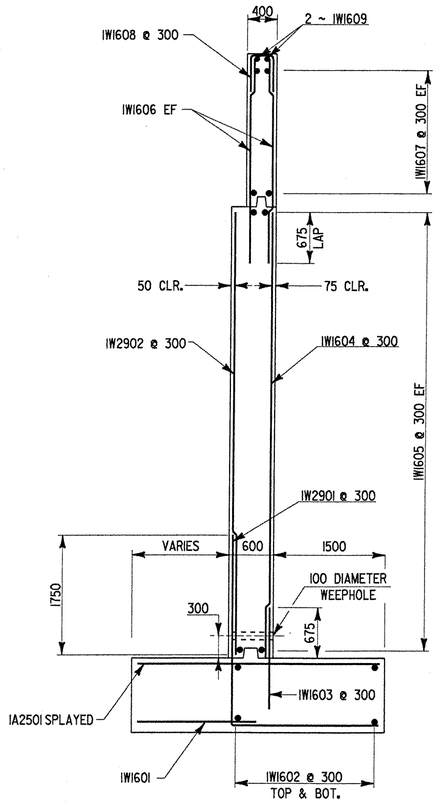



## ABUTMENT NO. 1 WINGWALL ELEVATION

WINGWALL 1 SHOWN, WINGWALL 2 OPPOSITE

0 1 2 3 4 5

SCALE 1:50

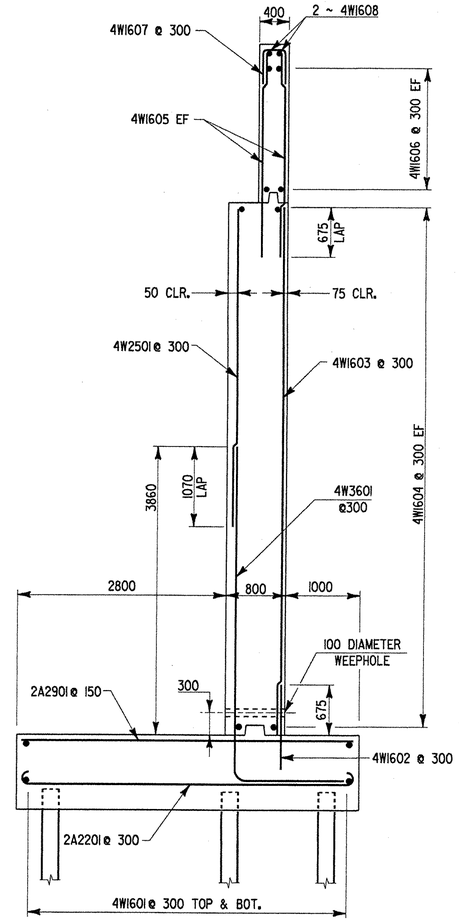



## WINGWALL NO. 1 & NO. 2 TYPICAL SECTION

WINGWALL 1 SHOWN, WINGWALL 2 SIMILAR

0 1 2 3 4

SCALE 1:40

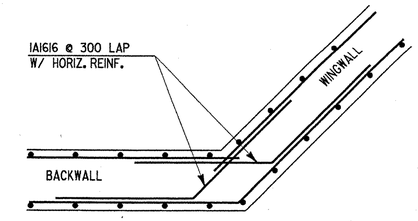



## WINGWALL NO. 3 & NO. 4 TYPICAL SECTION

WINGWALL 4 SHOWN, WINGWALL 3 SIMILAR

0 1 2 3 4

SCALE 1:40

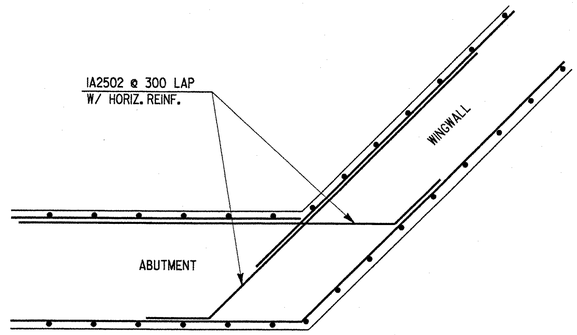



## SECTION C-C BACKWALL CORNER DETAIL

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

0 1 2

SCALE 1:20

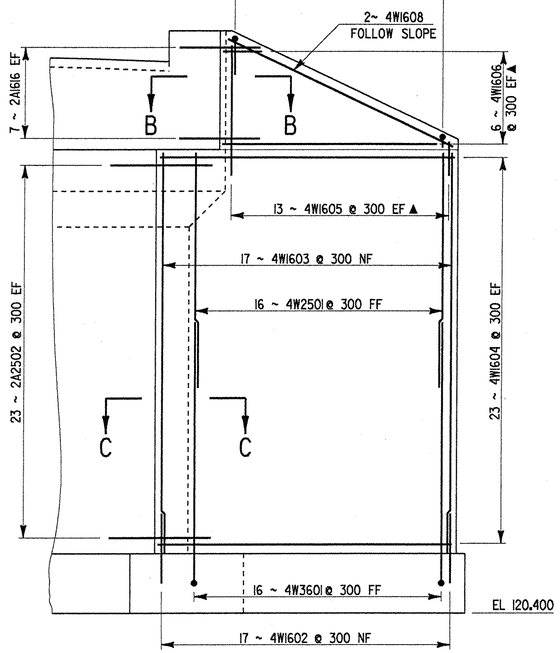



## SECTION B-B ABUTMENT CORNER DETAIL

ABUTMENT 1 SHOWN, ABUTMENT 2 SIMILAR

0 1 2

SCALE 1:20




## ABUTMENT NO. 2 WINGWALL ELEVATION

WINGWALL 4 SHOWN, WINGWALL 3 OPPOSITE

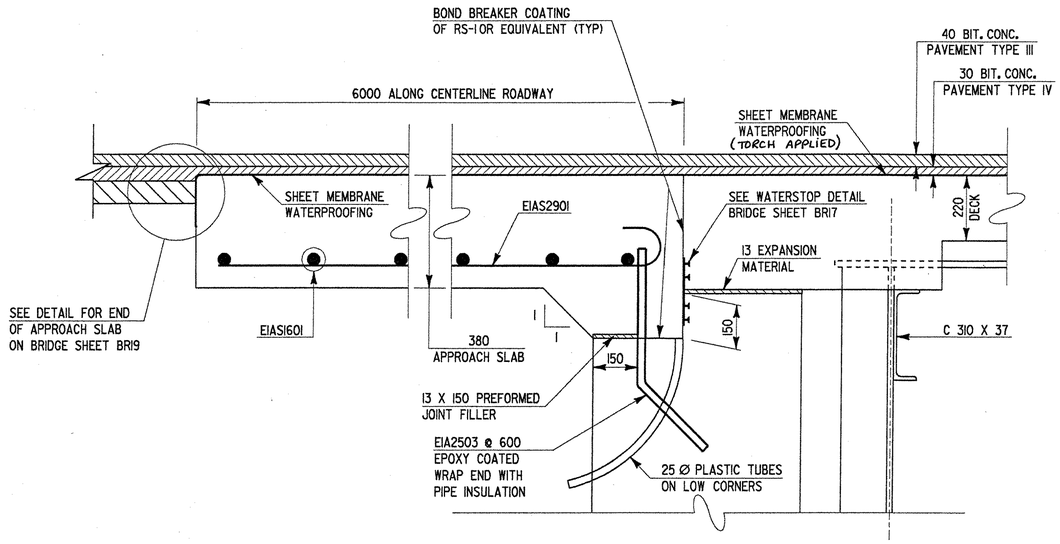
0 1 2 3 4 5

SCALE 1:50

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| WINGWALL REINFORCING | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON — Date 02/00 | Bridge Design Supervisor — Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9\4562\zf184wdt.dgn | IPARM:zf184wdt.I |
| Bridge Sheet No. BR26 | Sheet 65 of 140 |

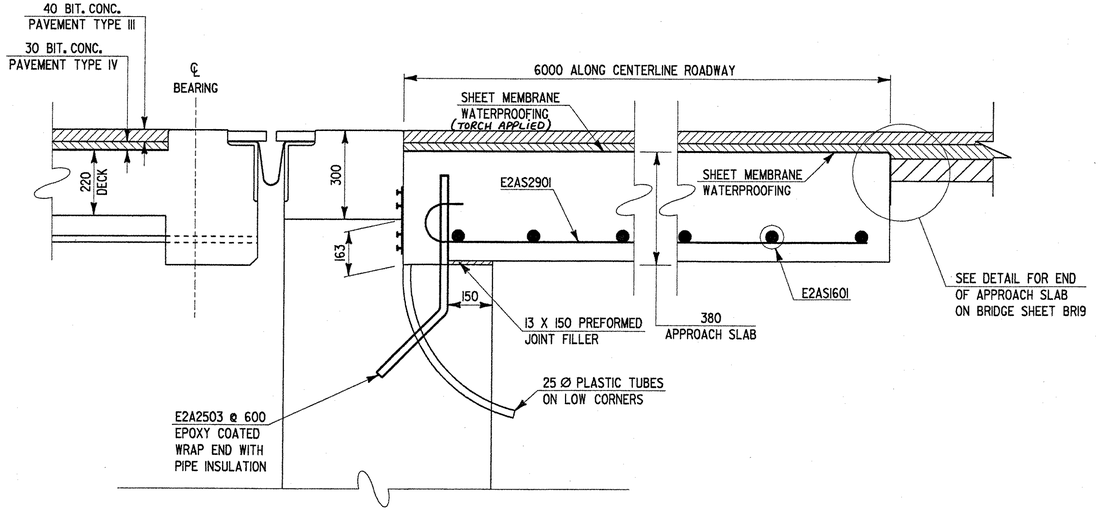
78f184/zf184WWR




## SECTION A - A

0 0.5 1

SCALE 1:10

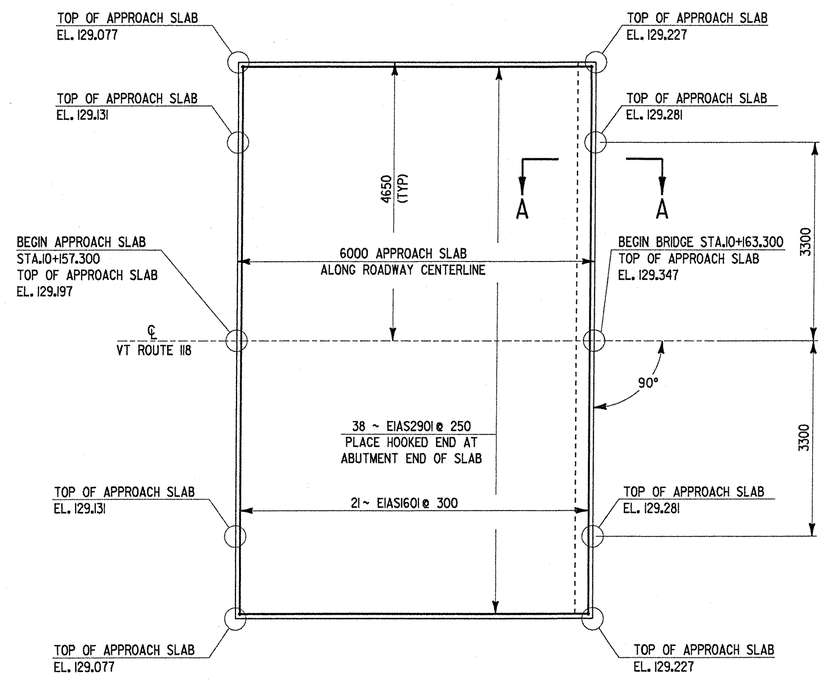



## SECTION B - B

0 0.5 1

SCALE 1:10

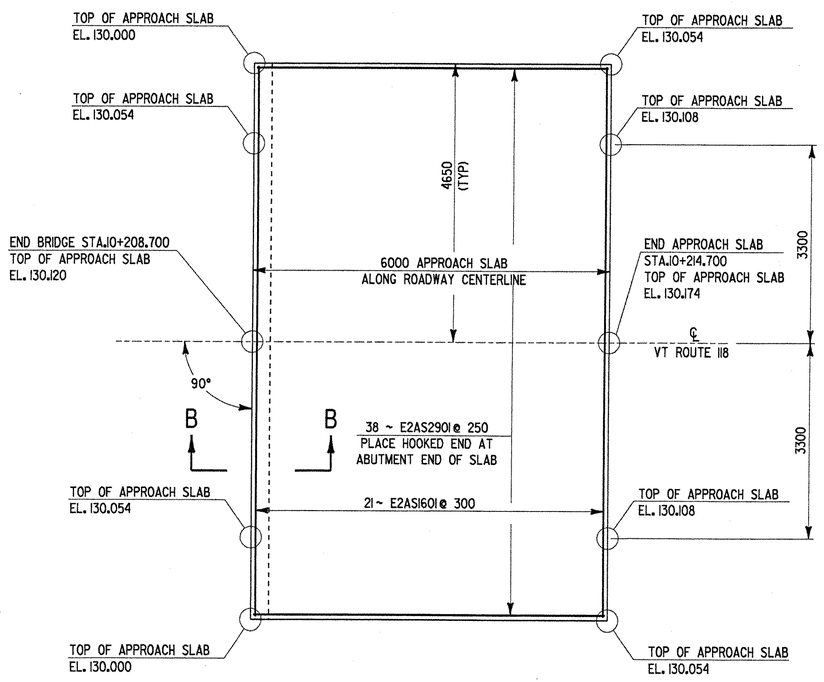
SEE BRIDGE SHEET BRI7 & BRI8 FOR ADDITIONAL
DETAILS AT EXPANSION JOINT




## APPROACH SLAB NO. 1 PLAN

0 1 2 3 4 5

SCALE 1:50




## APPROACH SLAB NO. 2 PLAN

0 1 2 3 4 5

SCALE 1:50

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

| | |
|---|---|
| Town Of BERKSHIRE | Bridge No. 26 |
| Highway No. VT. ROUTE 118 | Log Sta. / Surv. Sta. |
| VT. ROUTE 118 OVER TROUT RIVER | |
| APPROACH SLAB DETAILS | |
| Designed By S. JOHNSON | Drawn By S. DELIA |
| Checked By S. JOHNSON — Date 02/00 | Bridge Design Supervisor — Date |
| PROJECT BERKSHIRE | PROJECT NO. BRF-RS 0283(7) |
| I.G.C. Info. y:\J9I4562\zf184aps.dgn | IPARM:zf184apsJ |
| Bridge Sheet No. BR27 | Sheet 66 of 140 |

78f184/zf184SLB

## DECK

| ITEM | PIECES | SIZE | LENGTH | MARK | TYPE | A | B | C | D | E | F | G | H | J | K | R | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| * | 229 | 16 | 12 000 | ES1601 | STR | | | | | | | | | | | | |
| * | 77 | 16 | 10 970 | ES1602 | STR | | | | | | | | | | | | |
| 8 | 474 | 16 | 1740 | ES1603 | S5 | 250 | 400 | 440 | 400 | | | 250 | | | | | |
| 9 | 24 | 16 | 2350 | ES1604 | S5 | 1125 | 250 | 775 | 200 | | | | | | | | |
| 10 | 24 | 16 | 1310 | ES1605 | S5 | 600 | 250 | 260 | 200 | | | | | | | | |
| 11△ | 368 | 19 | 10 350 | ES1901 | STR | ▲ | | | | | | | | | | | |

## APPROACH SLAB 1

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18 | 21 | 16 | 9150 | E1AS1601 | STR | | | | | | | | | | | | |
| 19 | 38 | 29 | 6225 | E1AS2901 | 1 | 375 | 5850 | | | | | | | 300 | | | |

## APPROACH SLAB 2

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 26△ | 23 | 16 | 9150 | E2AS1601 | STR | | | | | | | | | | | | |
| 27△ | 40 | 29 | 6225 | E2AS2901 | 1 | 375 | 5850 | | | | | | | 300 | | | |

## ABUTMENT NO 1

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 34 | 32 | 16 | 11 675 | 1A1601 | STR | | | | | | | | | | | | |
| 35 | 37 | 16 | 4750 | 1A1602 | 17 | | 3150 | 1600 | | | | | | | | | |
| 36 | 37 | 16 | 5875 | 1A1603 | STR | | | | | | | | | | | | |
| 37 | 42 | 16 | 4900 | 1A1604 | STR | | | | | | | | | | | | |
| 38* | 43 | 16 | 6275 | 1A1605 | STR | | | | | | | | | | | | |
| 39 | 12 | 16 | 5650 | 1A1606 | STR | | | | | | | | | | | | |
| 40* | 13 | 16 | 4200 | 1A1607 | STR | | | | | | | | | | | | |
| 41 | 37 | 16 | 2325 | 1A1608 | 17 | | 250 | 1275 | 800 | | | | | | | | |
| 42 | 39 | 16 | 2650 | 1A1609 | 12 | ▲ | | 1300 | 1350 | | | | 955 | | 955 | | |
| 43 | 33 | 16 | 3025 | 1A1610 | 17 | | 1225 | 575 | 1225 | | | | | | | | |
| 44 | 33 | 16 | 1175 | 1A1611 | 17 | | 450 | 275 | 450 | | | | | | | | |
| 45 | 49 | 16 | 1300 | 1A1612 | STR | | | | | | | | | | | | |
| 46 | 8 | 16 | 2925 | 1A1613 | 17 | | 1325 | 275 | 1325 | | | | | | | | |
| 47 | 4 | 16 | 2225 | 1A1614 | 17 | | 975 | 275 | 975 | | | | | | | | |
| 48 | 28 | 16 | 1975 | 1A1615 | STR | ▲ | | | | | | | | | | | |
| 49 | 28 | 16 | 1850 | 1A1616 | 12 | | | 925 | 925 | | | | 654 | | 654 | | |
| 50△ | 79 | 25 | 4650 | 1A2501 | STR | | | | | | | | | | | | |
| 51 | 80 | 25 | 2950 | 1A2502 | 12 | | | 425 | 2525 | | | | 1786 | | 1786 | | |
| 52 | 18 | 25 | 900 | 1A2503 | 12 | | | 450 | 450 | | | | 318 | | 318 | | |
| 53 | 35 | 29 | 4825 | 1A2901 | 17 | | 2675 | 2150 | | | | | | | | | |
| 54 | 35 | 29 | 5900 | 1A2902 | STR | | | | | | | | | | | | |
| 55△ | 35 | 32 | 4215 | 1A3201 | 17 | | 3575 | 550 | | | | | | | | | |

## ABUTMENT NO 2

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 62 | 32 | 16 | 11 325 | 2A1601 | STR | | | | | | | | | | | | |
| 63 | 37 | 16 | 1300 | 2A1602 | STR | | | | | | | | | | | | |
| 64 | 37 | 16 | 6625 | 2A1603 | STR | | | | | | | | | | | | |
| 65 | 48 | 16 | 4900 | 2A1604 | STR | | | | | | | | | | | | |
| 66* | 49 | 16 | 6275 | 2A1605 | STR | | | | | | | | | | | | |
| 67 | 14 | 16 | 4200 | 2A1606 | STR | | | | | | | | | | | | |
| 68* | 15 | 16 | 5650 | 2A1607 | STR | | | | | | | | | | | | |
| 69 | 37 | 16 | 2325 | 2A1608 | 17 | | 250 | 1275 | 800 | | | | | | | | |
| 70 | 37 | 16 | 2675 | 2A1609 | 12 | ▲ | | 1325 | 1350 | | | | 955 | | 955 | | |
| 71 | 33 | 16 | 3325 | 2A1610 | 17 | | 1375 | 575 | 1375 | | | | | | | | |
| 72 | 41 | 16 | 1675 | E2A1611 | 17 | | 700 | 275 | 700 | | | | | | | | |
| 73 | 49 | 16 | 1325 | 2A1612 | STR | | | | | | | | | | | | |
| 74 | 8 | 16 | 4075 | 2A1613 | 17 | | 1900 | 275 | 1900 | | | | | | | | |
| 75 | 2 | 16 | 10 400 | E2A1614 | STR | | | | | | | | | | | | |
| 76 | 36 | 16 | 1975 | 2A1615 | STR | ▲ | | | | | | | | | | | |
| 77 | 36 | 16 | 1850 | 2A1616 | 12 | | | 925 | 925 | | | | 654 | | 654 | | |
| 78△ | 76 | 22 | 4950 | 2A2201 | 1 | 250 | 4450 | | | | | 250 | | | | | |
| 79* | 36 | 25 | 6625 | 2A2501 | STR | | | | | | | | | | | | |
| 80* | 93 | 25 | 2950 | 2A2502 | 12 | | | 425 | 2525 | | | | 1786 | | 1786 | | |
| 81 | 18 | 25 | 900 | 2A2503 | 12 | | | 450 | 450 | | | | 318 | | 318 | | |
| 82△ | 116 | 29 | 4450 | 2A2901 | STR | | | | | | | | | | | | |
| 83* | 36 | 36 | 3900 | 2A3601 | 17 | | 2250 | 1650 | | | | | | | | | |
| 84* | 34 | 36 | 5100 | 2A3602 | 17 | | 4500 | 600 | | | | | | | | | |

## WINGWALL NO 1

| ITEM | PIECES | SIZE | LENGTH | MARK | TYPE | A | B | C | D | E | F | G | H | J | K | R | O |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 105 | 7 | 16 | 2625 | 1W1601 | STR | | | | | | | | | | | | |
| 106 | 14 | 16 | 4600 | 1W1602 | STR | | | | | | | | | | | | |
| 107 | 14 | 16 | 1275 | 1W1603 | STR | | | | | | | | | | | | |
| 108 | 14 | 16 | 5900 | 1W1604 | STR | | | | | | | | | | | | |
| 109 | * 41 | 16 | 3875 | 1W1605 | STR | | | | | | | | | | | | |
| 110 | 24 | 16 | 2600 | 1W1606 | STR | ▲ | | | | | | | | | | | |
| 111 | * 15 | 16 | 2875 | 1W1607 | STR | ▲ | | | | | | | | | | | |
| 112 | 12 | 16 | 850 | 1W1608 | 17 | | 300 | 250 | 300 | | | | | | | | |
| 113 | 2 | 16 | 2825 | 1W1609 | STR | | | | | | | | | | | | |
| 114 | * 13 | 29 | 4625 | 1W2901 | 17 | | 2675 | 1950 | | | | | | | | | |
| 115 | * 13 | 29 | 5900 | 1W2902 | STR | | | | | | | | | | | | |

## WINGWALL NO 2

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 122 | 7 | 16 | 2625 | 2W1601 | STR | | | | | | | | | | | | |
| 123 | 14 | 16 | 4600 | 2W1602 | STR | | | | | | | | | | | | |
| 124 | 14 | 16 | 1275 | 2W1603 | STR | | | | | | | | | | | | |
| 125 | 14 | 16 | 5900 | 2W1604 | STR | | | | | | | | | | | | |
| 126 | * 41 | 16 | 3875 | 2W1605 | STR | | | | | | | | | | | | |
| 127 | 24 | 16 | 2600 | 2W1606 | STR | ▲ | | | | | | | | | | | |
| 128 | * 15 | 16 | 2875 | 2W1607 | STR | ▲ | | | | | | | | | | | |
| 129 | 12 | 16 | 850 | 2W1608 | 17 | | 300 | 250 | 300 | | | | | | | | |
| 130 | 2 | 16 | 2825 | 2W1609 | STR | | | | | | | | | | | | |
| 131 | * 13 | 29 | 4625 | 2W2901 | 17 | | 2675 | 1950 | | | | | | | | | |
| 132 | * 13 | 29 | 5900 | 2W2902 | STR | | | | | | | | | | | | |

## WINGWALL NO 3

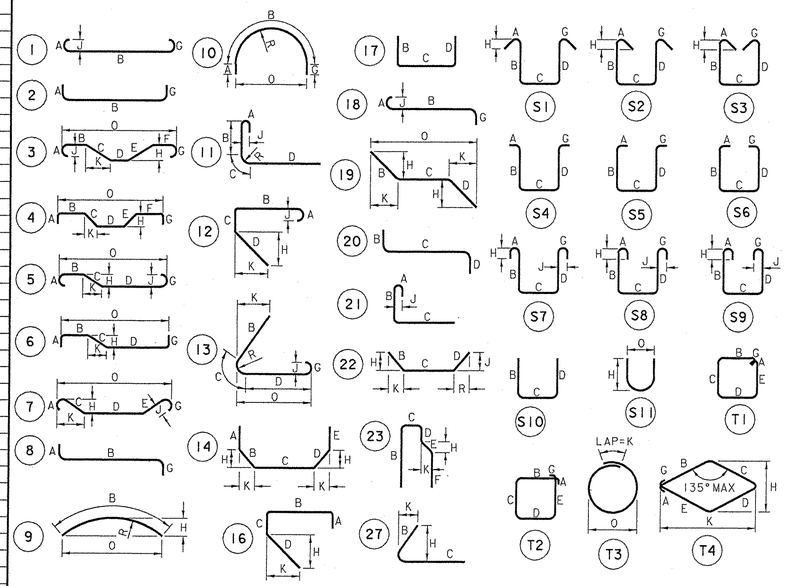
| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 139 | 32 | 16 | 5525 | 3W1601 | STR | | | | | | | | | | | | |
| 140 | 17 | 16 | 1300 | 3W1602 | STR | | | | | | | | | | | | |
| 141 | 17 | 16 | 6700 | 3W1603 | STR | | | | | | | | | | | | |
| 142 | * 47 | 16 | 4925 | 3W1604 | STR | | | | | | | | | | | | |
| 143 | 26 | 16 | 2600 | 3W1605 | STR | ▲ | | | | | | | | | | | |
| 144 | * 13 | 16 | 3875 | 3W1606 | STR | ▲ | | | | | | | | | | | |
| 145 | 12 | 16 | 850 | 3W1607 | 17 | | 300 | 250 | 300 | | | | | | | | |
| 146 | 2 | 16 | 4175 | 3W1608 | STR | | | | | | | | | | | | |
| 147 | △ 18 | 25 | 3900 | 3W2501 | STR | | | | | | | | | | | | |
| 148 | △ 18 | 36 | 6100 | 3W3601 | 17 | | 4500 | 1600 | | | | | | | | | |

## WINGWALL NO 4

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 156 | 32 | 16 | 5525 | 4W1601 | STR | | | | | | | | | | | | |
| 157 | 17 | 16 | 1300 | 4W1602 | STR | | | | | | | | | | | | |
| 158 | 17 | 16 | 6700 | 4W1603 | STR | | | | | | | | | | | | |
| 159 | * 47 | 16 | 4925 | 4W1604 | STR | | | | | | | | | | | | |
| 160 | 26 | 16 | 2600 | 4W1605 | STR | ▲ | | | | | | | | | | | |
| 161 | * 13 | 16 | 3875 | 4W1606 | STR | ▲ | | | | | | | | | | | |
| 162 | 12 | 16 | 850 | 4W1607 | 17 | | 300 | 250 | 300 | | | | | | | | |
| 163 | 2 | 16 | 4175 | 4W1608 | STR | | | | | | | | | | | | |
| 164 | △ 18 | 25 | 3900 | 4W2501 | STR | | | | | | | | | | | | |
| 165 | △ 18 | 36 | 6100 | 4W3601 | 17 | | 4500 | 1600 | | | | | | | | | |

## NOTES

1. UNLESS OTHERWISE DESIGNATED, ALL BAR REINFORCEMENT FOR CONCRETE IN SIZES UP TO AND INCLUDING 55M SHALL CONFROM TO THE REQUIREMENT OF THE "SPECIFICATIONS FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT", AASHTO M 31M (ASTM A 615M-SI). ALL BARS SHALL BE GRADE 420, UNLESS OTHERWISE DESIGNATED.
2. FOR TYPICAL BENDING DETAILS, RECOMMENDED PIN DIAMETER "D" OF BENDS AND HOOKS, AND OTHER STANDARD PRACTICE, SEE CURRENT CONCRETE REINFORCING STEEL INSTITUTE "MANUAL OF STANDARD PRACTICE".
3. BARS WHICH REQUIRE MORE ACCURATE BENDING THAN STANDARD PRACTICES SHOULD HAVE LIMITS INDICATED.
4. ALL DIMENSIONS ARE OUT TO OUT OF BAR EXCEPT "A" AND "G" ON STANDARD 180 DEGREE AND 135 DEGREE HOOKS.
5. "J" DIMENSION ON 180 DEGREE HOOKS ARE TO BE SHOWN ONLY WHEN NECESSARY TO RESTRICT HOOK SIZE. OTHERWISE, STANDARD HOOKS ARE TO BE USED.
6. "H" DIMENSION ON STIRRUPS ARE TO BE SHOWN ONLY WHEN NECCESSARY TO MAINTAIN CLEARANCES.
7. WHERE SLOPE DIFFERS FROM 45 DEGREES, DIMENSIONS "H" AND "K" MUST BE SHOWN.
8. ▲ DENOTES BARS TO BE CUT IN FIELD.
9. * DENOTES ONE EXTRA BAR ADDED FOR TESTING PURPOSES.
10. △ DENOTES TWO EXTRA BARS ADDED FOR TESTING PURPOSES.
11. "E" IN PREFIX DENOTES EPOXY COATED REINFORCING STEEL.




### ASTM STANDARD REINFORCING BARS

| BAR SIZE DESIGNATION | NOMINAL MASS kg/m | NOMINAL DIMENSIONS ROUND SECTION: DIAMETER mm | CROSS SECTIONAL AREA mm² | PERIMETER mm |
|---|---|---|---|---|
| 10 | 0.560 | 9.5 | 71 | 29.84 |
| 13 | 0.994 | 12.7 | 129 | 39.90 |
| 16 | 1.552 | 15.9 | 199 | 49.95 |
| 19 | 2.235 | 19.1 | 284 | 60.00 |
| 22 | 3.042 | 22.2 | 387 | 69.74 |
| 25 | 3.973 | 25.4 | 510 | 79.80 |
| 29 | 5.060 | 28.7 | 645 | 90.16 |
| 32 | 6.404 | 32.3 | 819 | 101.47 |
| 36 | 7.907 | 35.8 | 1006 | 112.47 |
| 43 | 11.380 | 43.0 | 1452 | 135.09 |
| 57 | 20.240 | 57.3 | 2581 | 180.01 |

# STATE OF VERMONT
## AGENCY OF TRANSPORTATION

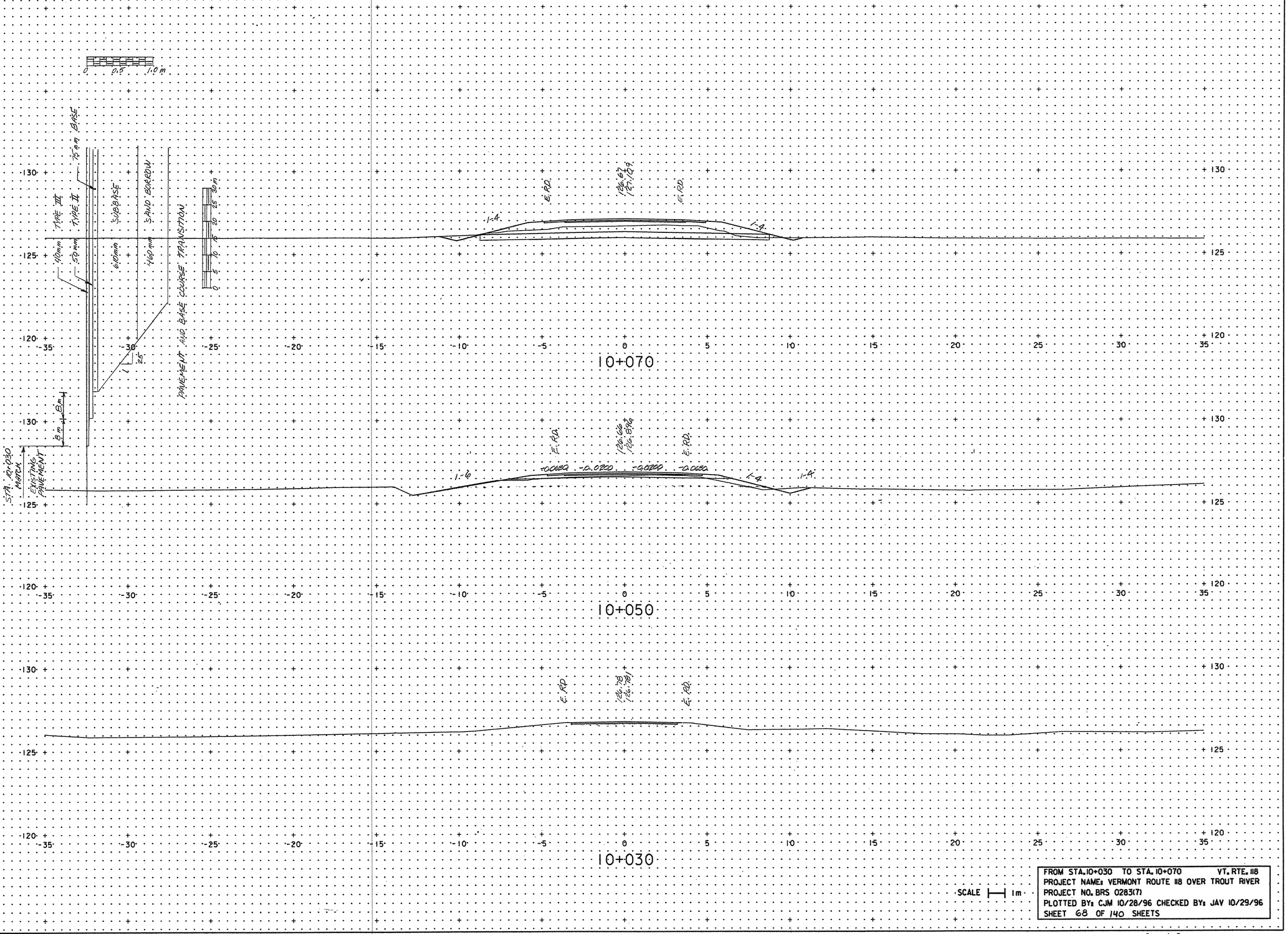
Town Of BERKSHIRE — Bridge No. 26
Highway No. VT. ROUTE 118 — Log Sta. — Surv. Sta.

VT. ROUTE 118 OVER TROUT RIVER

REINFORCING STEEL SCHEDULE

Designed By S. JOHNSON — Drawn By S. DELIA
Checked By S. JOHNSON — Date 11/96 — Bridge Design Supervisor — Date
PROJECT BERKSHIRE — PROJECT NO. BRF-RS 0283(7)
I.G.C. Info. yAJ914562\zf184rsh.dgn — IPARM:zf184rsh1
Bridge Sheet No. BR28 — Sheet 67 of 140

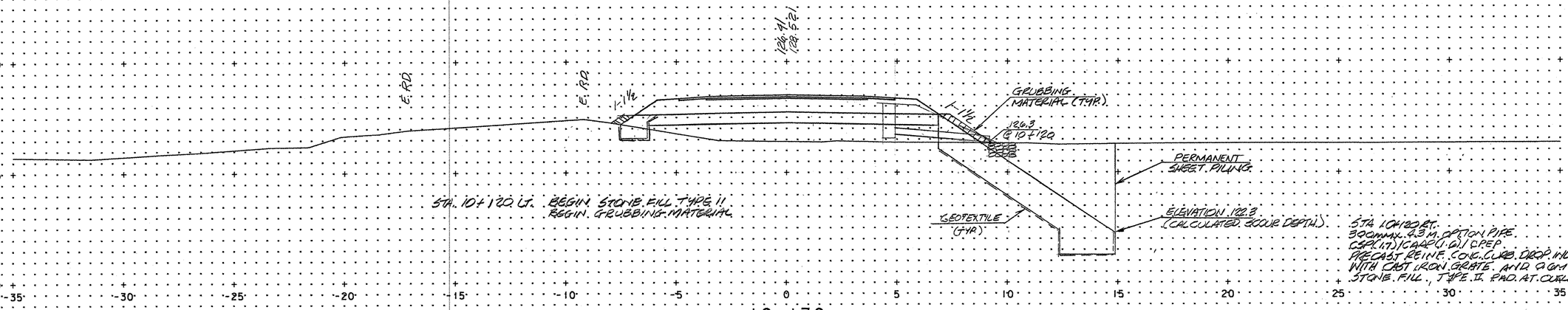
78f184/zf184RSS




FROM STA. 10+030 TO STA. 10+070 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 68 OF 140 SHEETS

/usr5/19435620/0283Txsl.dgn

78f184/zf184x01

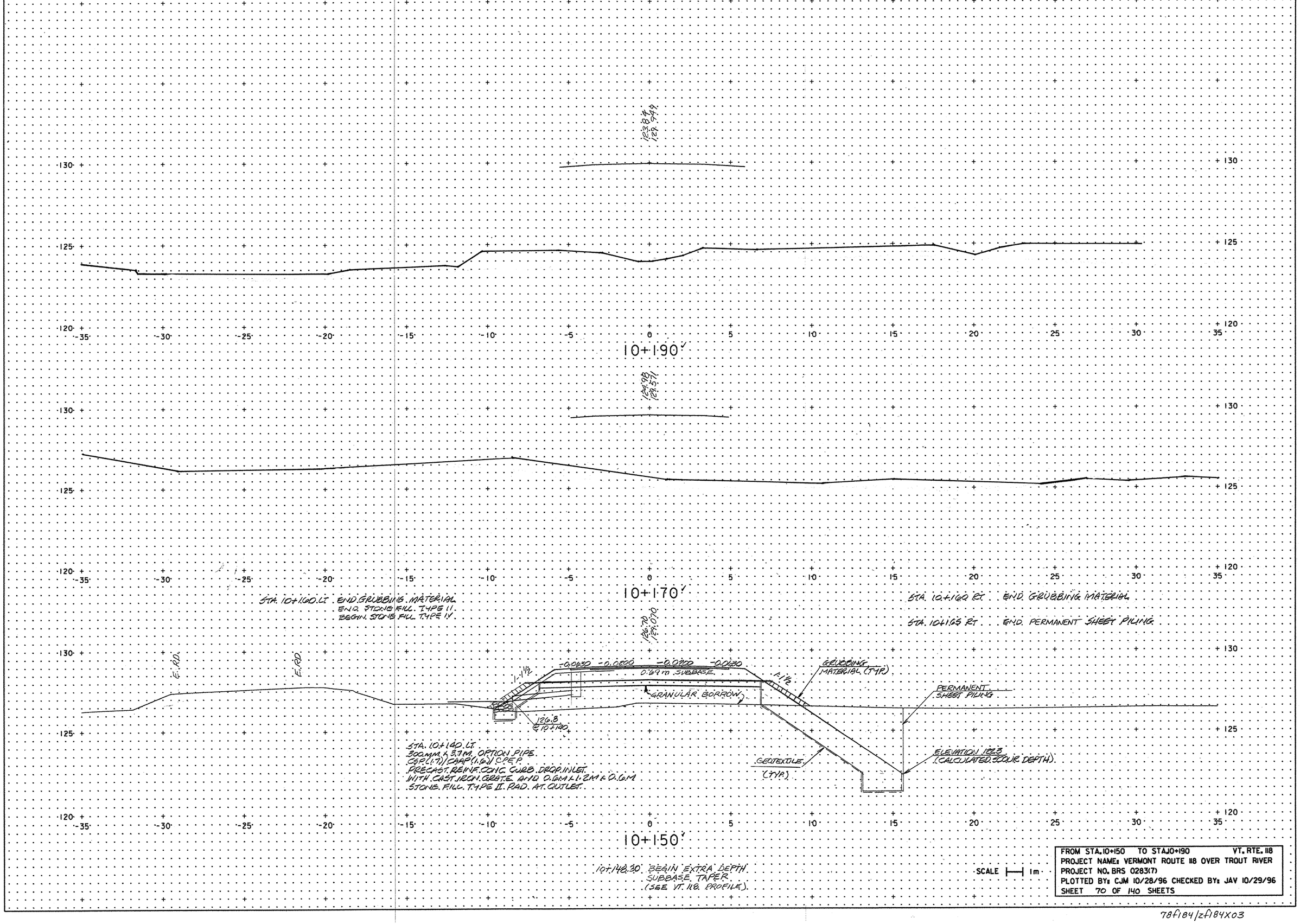


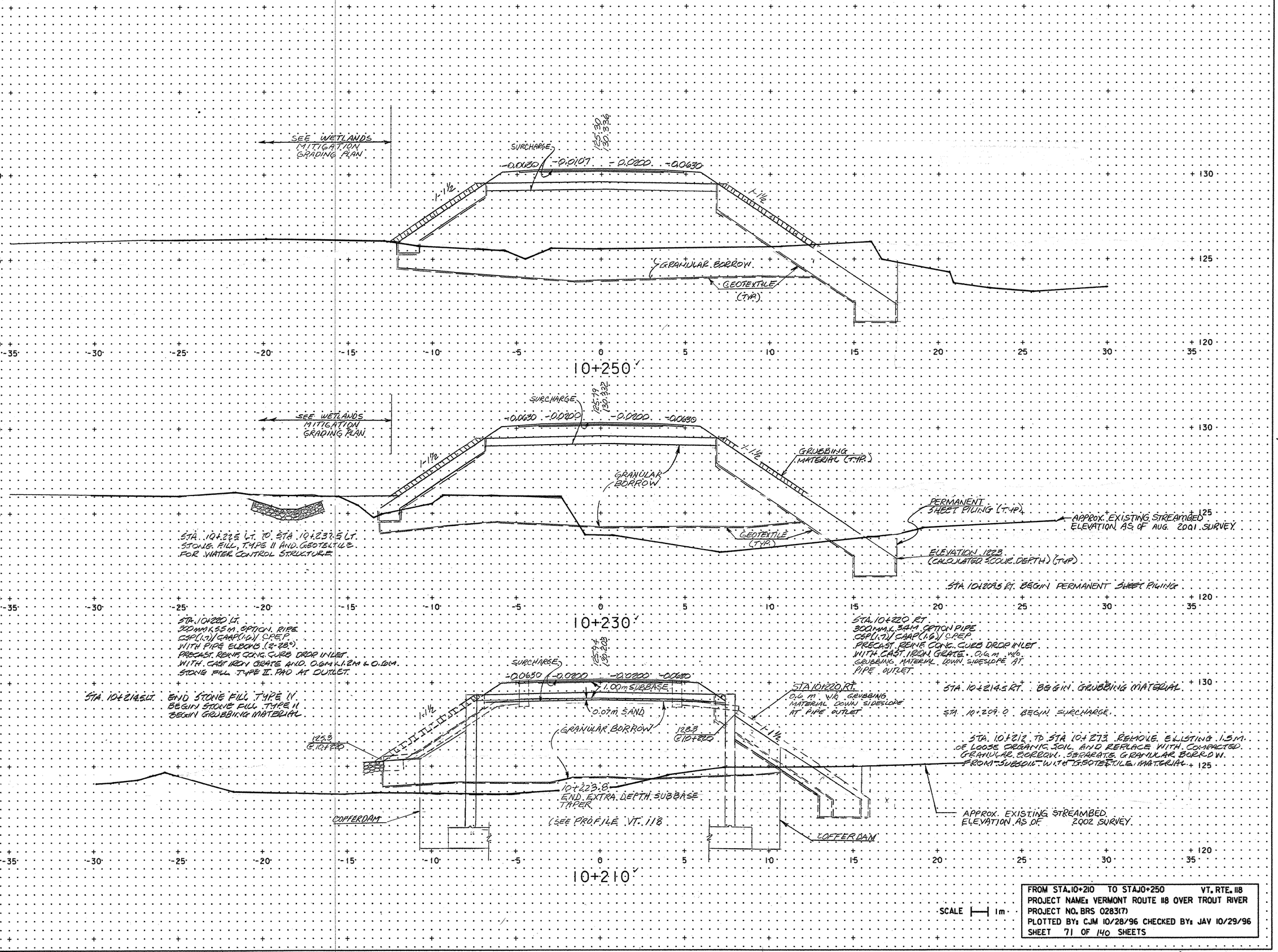

FROM STA. 10+090 TO STA. 10+130 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 69 OF 140 SHEETS

SCALE 1m

/user5/jb45620/02837rs6.dgn

78f184/zf184x02


10+190
10+170
10+150
E.RD.
E.RD.
-0.0030
-0.0200
-0.0200
-0.0230
0.69 m SUBBASE.
GRANULAR BORROW
GRUBBING MATERIAL (TYP.)
PERMANENT SHEET PILING
GEOTEXTILE (TYP.)
ELEVATION 122.3 (CALCULATED SCOUR DEPTH).
126.8 @ 10+190
STA. 10+140 LT.
300 MM x 3.7 M. ORTION PIPE CSP(1.7)/CAAP(1.6)/CPEP PRECAST REINF. CONC. CURB DROP INLET WITH CAST IRON GRATE AND 0.6M x 1.2M x 0.6M STONE FILL TYPE II RAD. AT OUTLET.
STA. 10+160 LT END GRUBBING MATERIAL
END STONE FILL TYPE II
BEGIN STONE FILL TYPE IV
STA. 10+160 RT. END GRUBBING MATERIAL
STA. 10+165 RT. END PERMANENT SHEET PILING
10+148.30 BEGIN EXTRA DEPTH SUBBASE TAPER (SEE VT. 118 PROFILE).
SCALE 1m
FROM STA. 10+150 TO STA 10+190 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 70 OF 140 SHEETS
/usr5/jm45620/0283(7)x4.dgn
78f184/zf184x03

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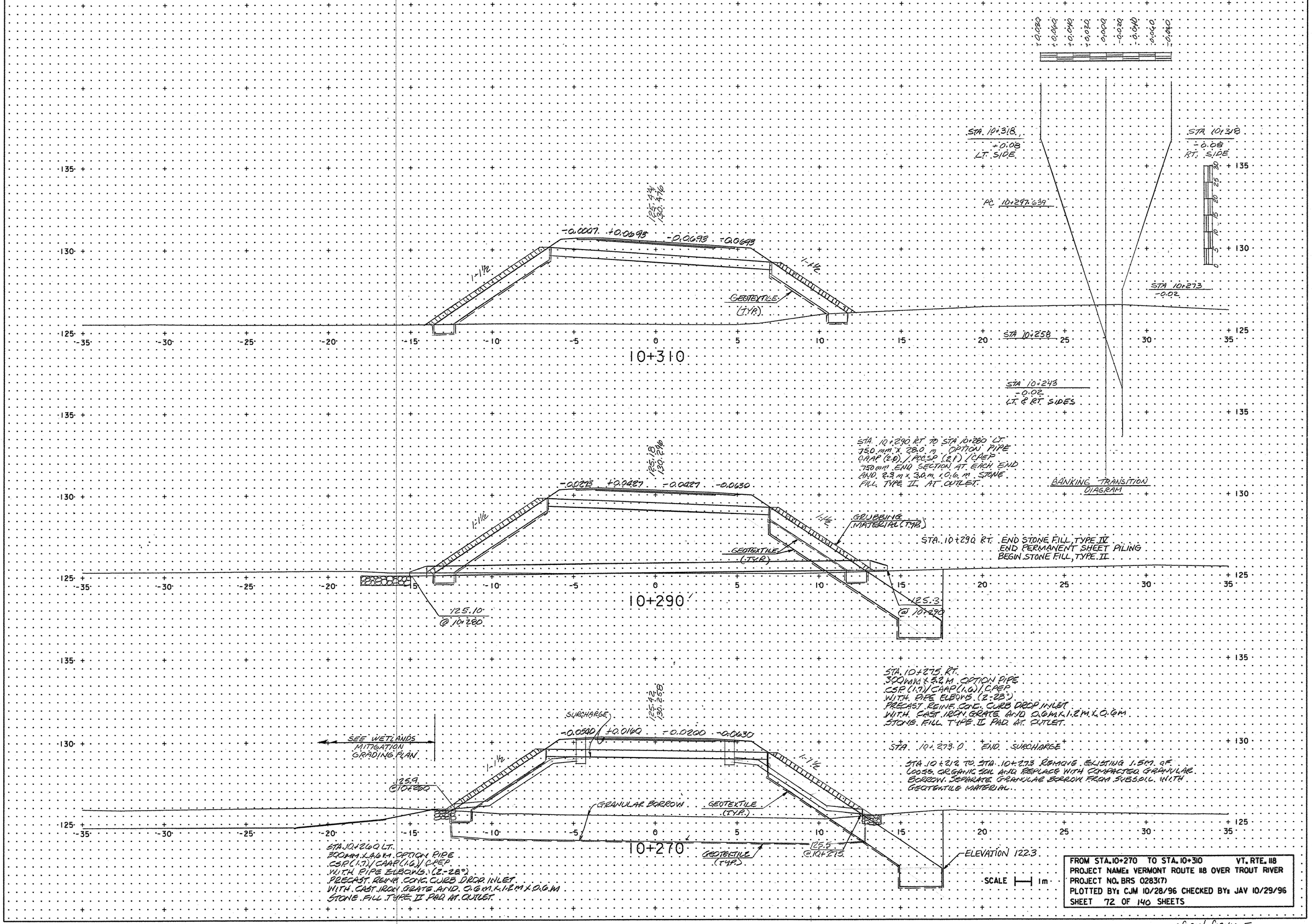


FROM STA. 10+270 TO STA. 10+310 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 72 OF 140 SHEETS

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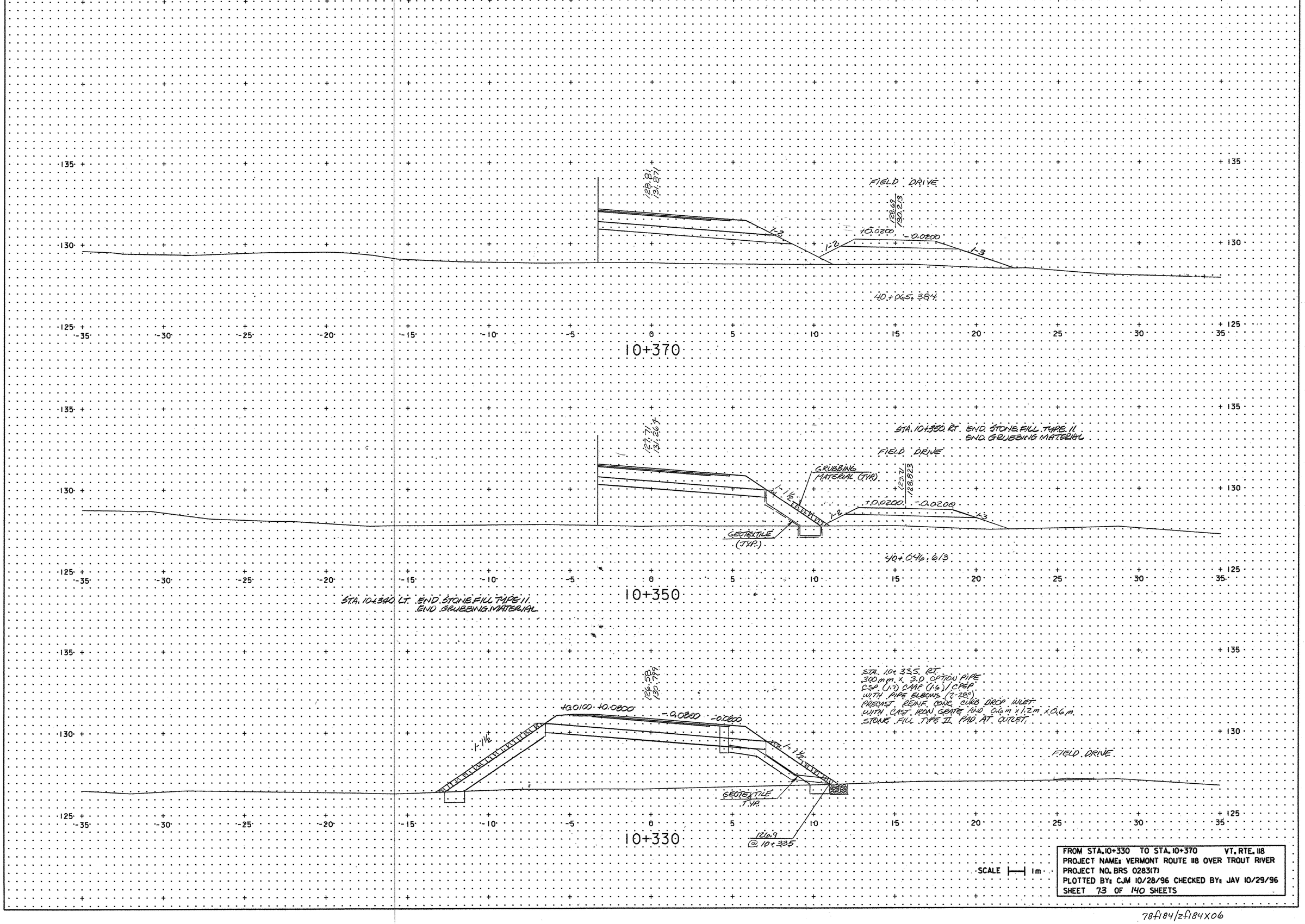


FROM STA. 10+330 TO STA. 10+370 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 73 OF 140 SHEETS

SCALE 1m

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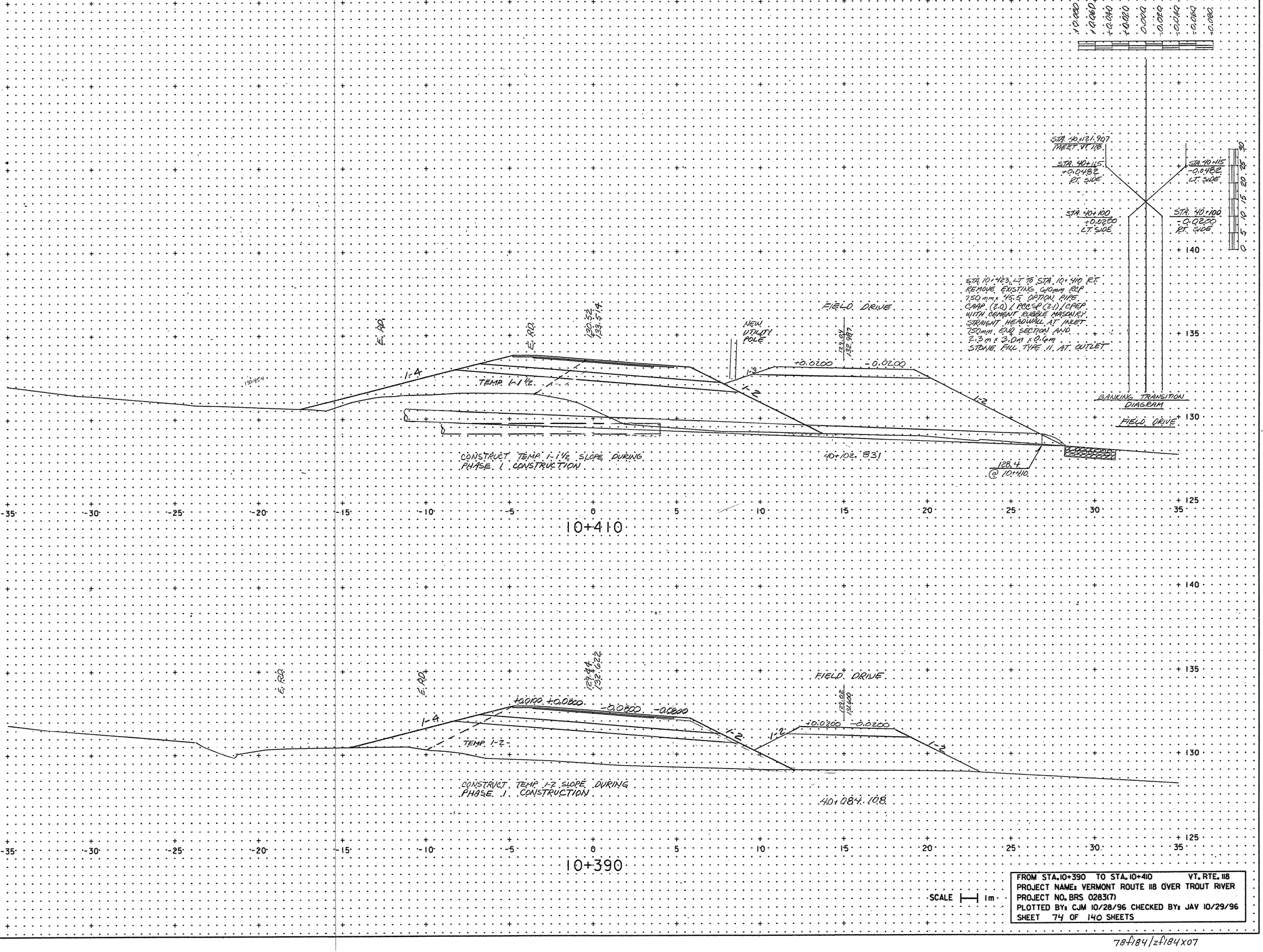
78f184/zf184x06

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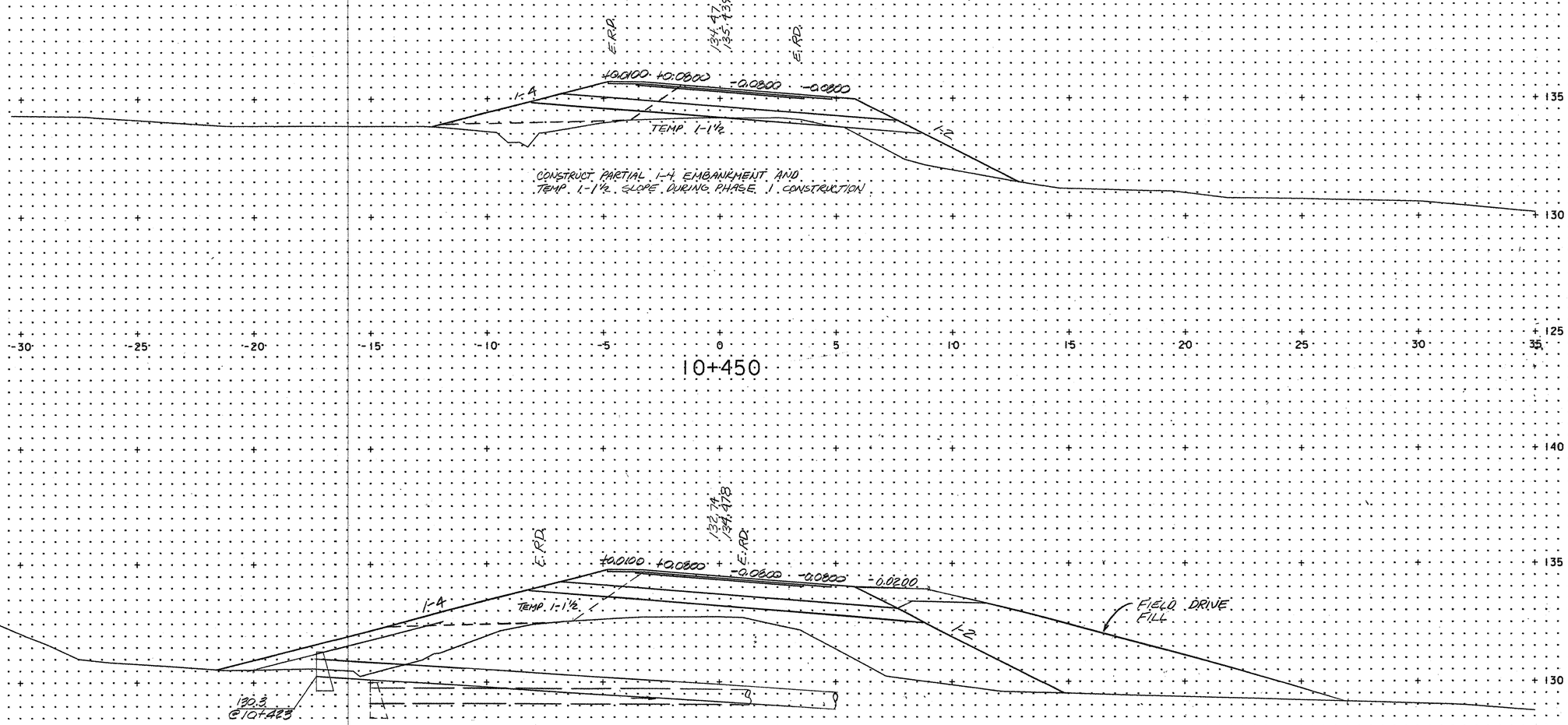


FROM STA. 10+430 TO STA. 10+450 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 75 OF 140 SHEETS

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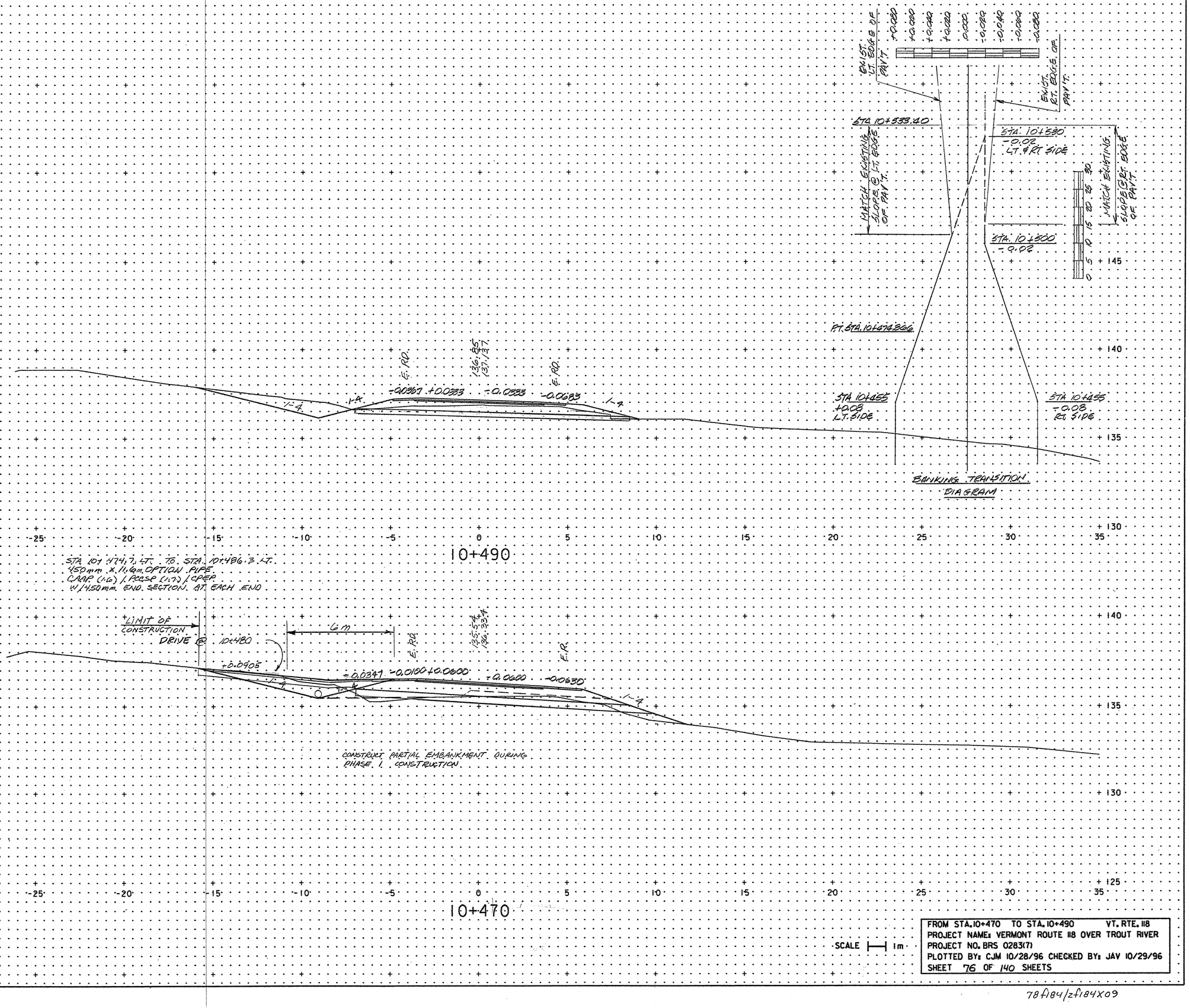
78f184/zf184x08




FROM STA. 10+470 TO STA. 10+490 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 76 OF 140 SHEETS

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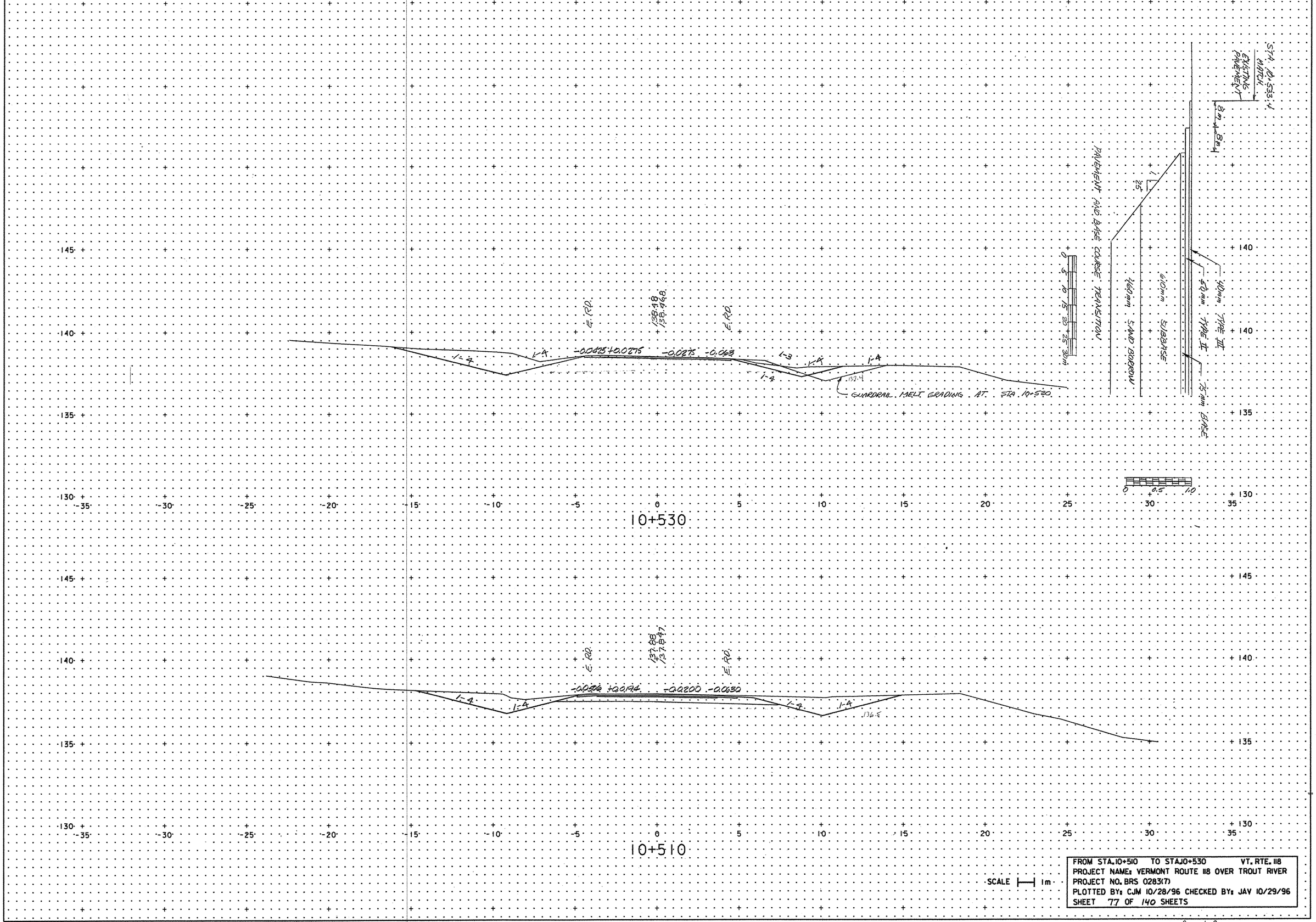
78f184/zf184x09


STA. 10+533.4 MATCH EXISTING PAVEMENT
8 in. 8 in.
1
2.5
PAVEMENT AND BASE COURSE TRANSITION
610mm SUBBASE
Various SAND ISOBORUM
40mm TYPE III
50 mm TYPE II
75 mm BASE
0 5 10 15 20 25 30m
145
140
135
E. RD.
138.48
138.48
-0.0425 +0.0275
-0.0275
-0.063
1-4
1-3
132.4
GUARDRAIL MELT GRADING AT STA. 10+520.
10+530
137.88
137.847
-0.0326 +0.0144
-0.0200
-0.0650
136.5
10+510
0 0.5 1.0
SCALE 1m
FROM STA. 10+510 TO STA 10+530 VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 77 OF 140 SHEETS
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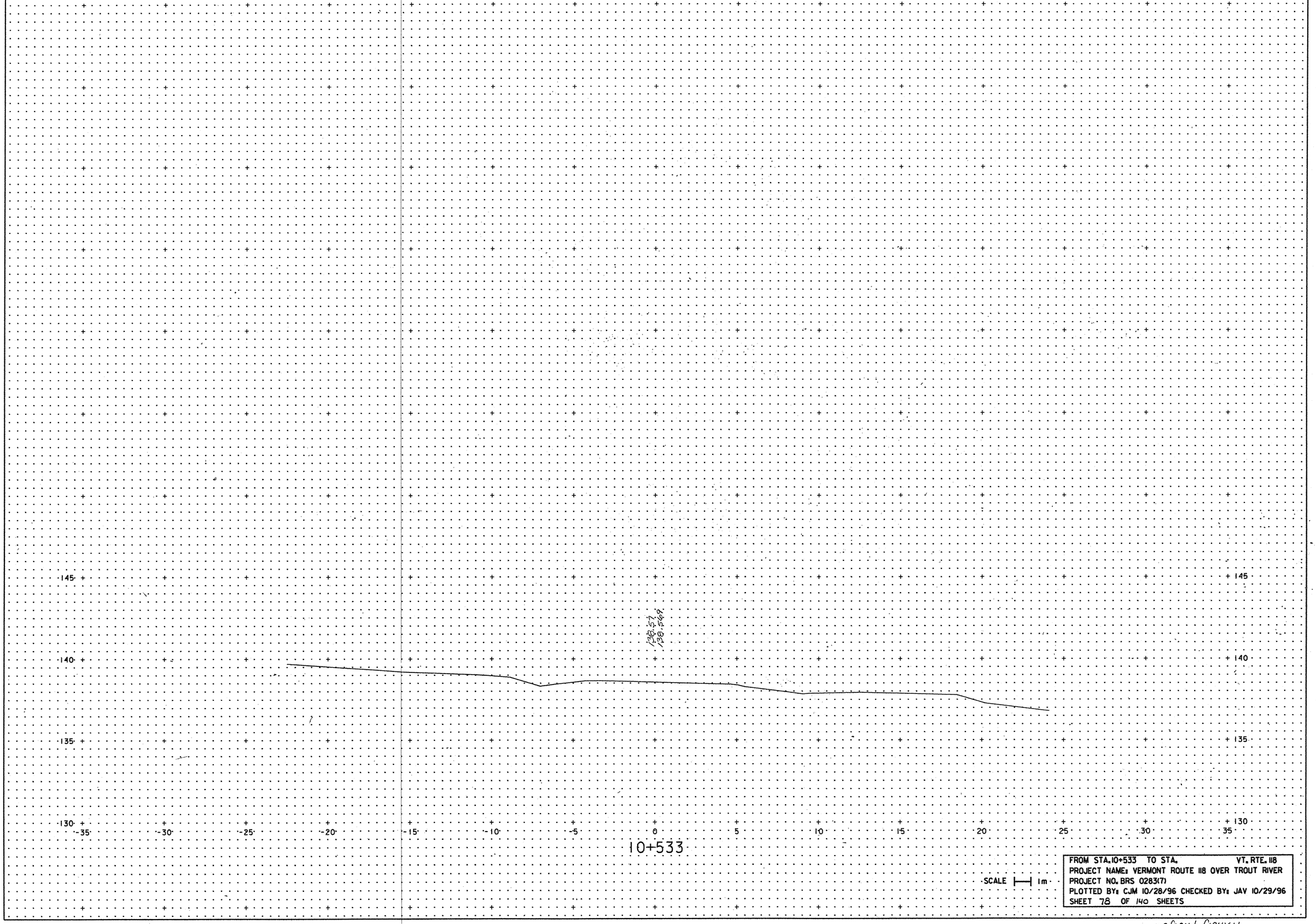


FROM STA. 10+533 TO STA. VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 78 OF 140 SHEETS

SCALE 1m

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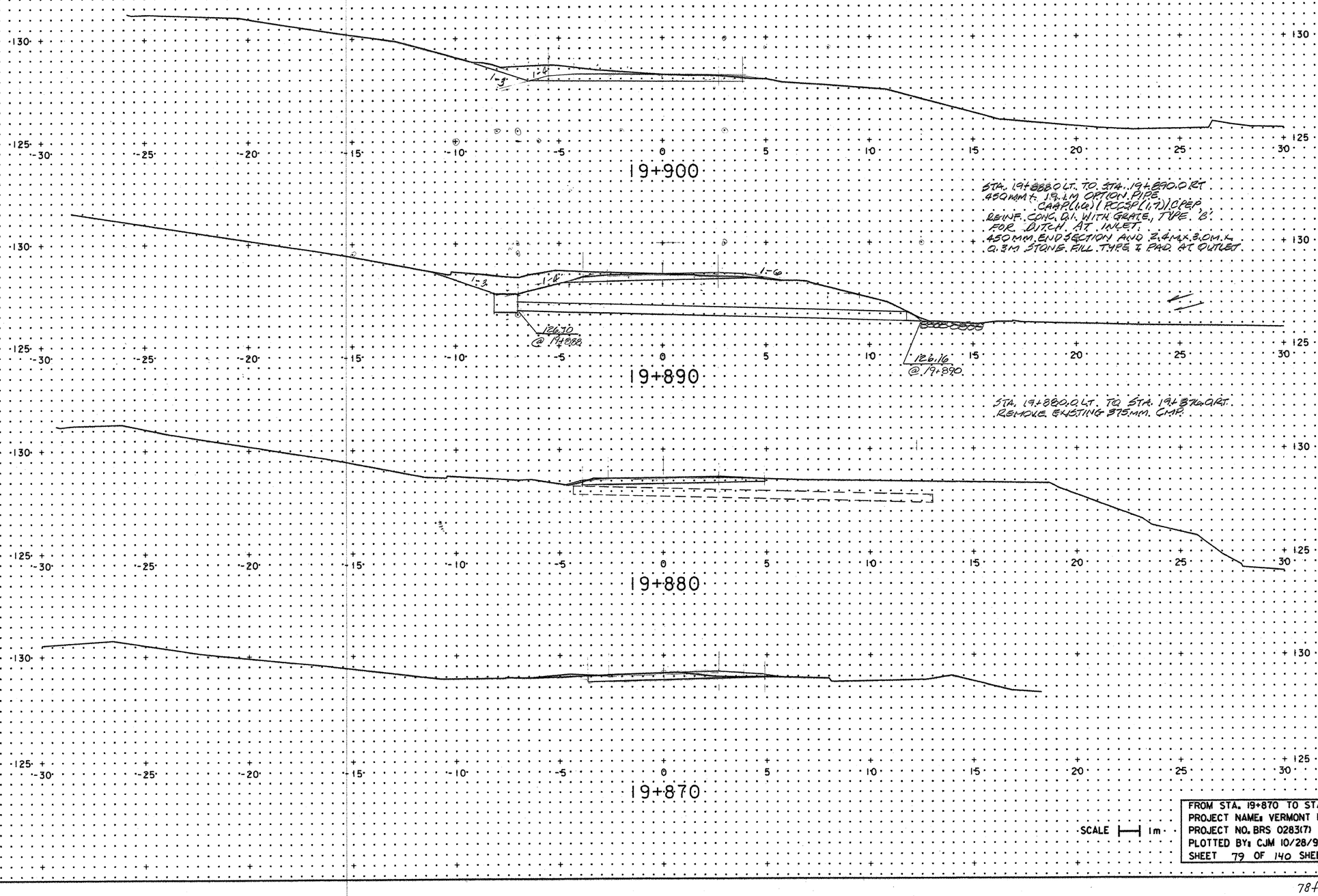
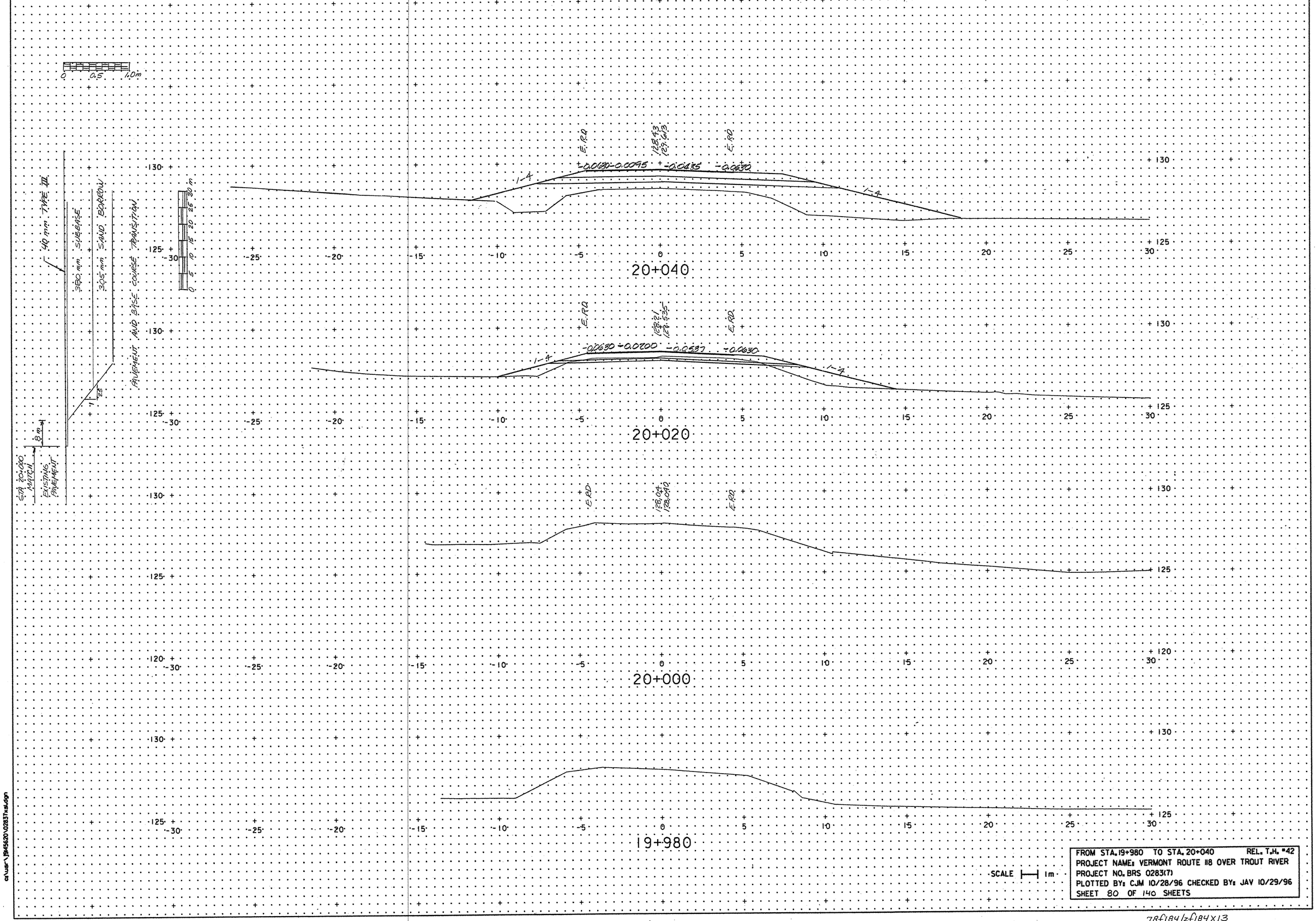
78f184/zf184X11




FROM STA. 19+870 TO STA. 19+900 REL. T.H. #42
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 79 OF 140 SHEETS

da\19456201\02837-sd.dgn

78f184/zf184x12




FROM STA. 19+980 TO STA. 20+040 REL. T.H. #42
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 80 OF 140 SHEETS

SCALE 1m

c:\usr\jb45620\0283(7)sht.dgn

78f184/zf184x13

20+096

20+080

20+060

E. RD.

128.86
31,864

-0.0378 +0.0822 -0.0822

1-4

1:3

STA. 20+062
+0.0322
LT. SIDE

STA. 20+062
-0.0322
RT. SIDE

STA. 20+045

STA. 20+031.44
-0.020
LT. SIDE

STA. 20+018.00
-0.020
LT. SIDE

STA. 20+000
+0.0071
LT. SIDE

STA. 20+000
-0.0639
RT. SIDE

EXISTING LT. SIDE

EXISTING RT. SIDE

0 5 10 15 20 25 30

BANKING TRANSITION DIAGRAM

LIMIT OF CONSTRUCTION

10m ROUNDING

6.0m

+14.28%

-15.0000%

-3.9700%

-0.0397

1-4

DRIVE @ STA. 20+070

LIMIT OF DRIVE CONSTRUCTION

STA. 20+062.5 RT. TO STA. 20+075.5 RT.
450mm x 17.5m OPTION PIPE. CAAP(1.6)/. ACCSP(1.7)/CPEP.
W/450mm. END SECTION AT EACH END

E. RD.

128.90
30.978

E. RD.

-0.0416 +0.0284 -0.0392 -0.0690

1-4

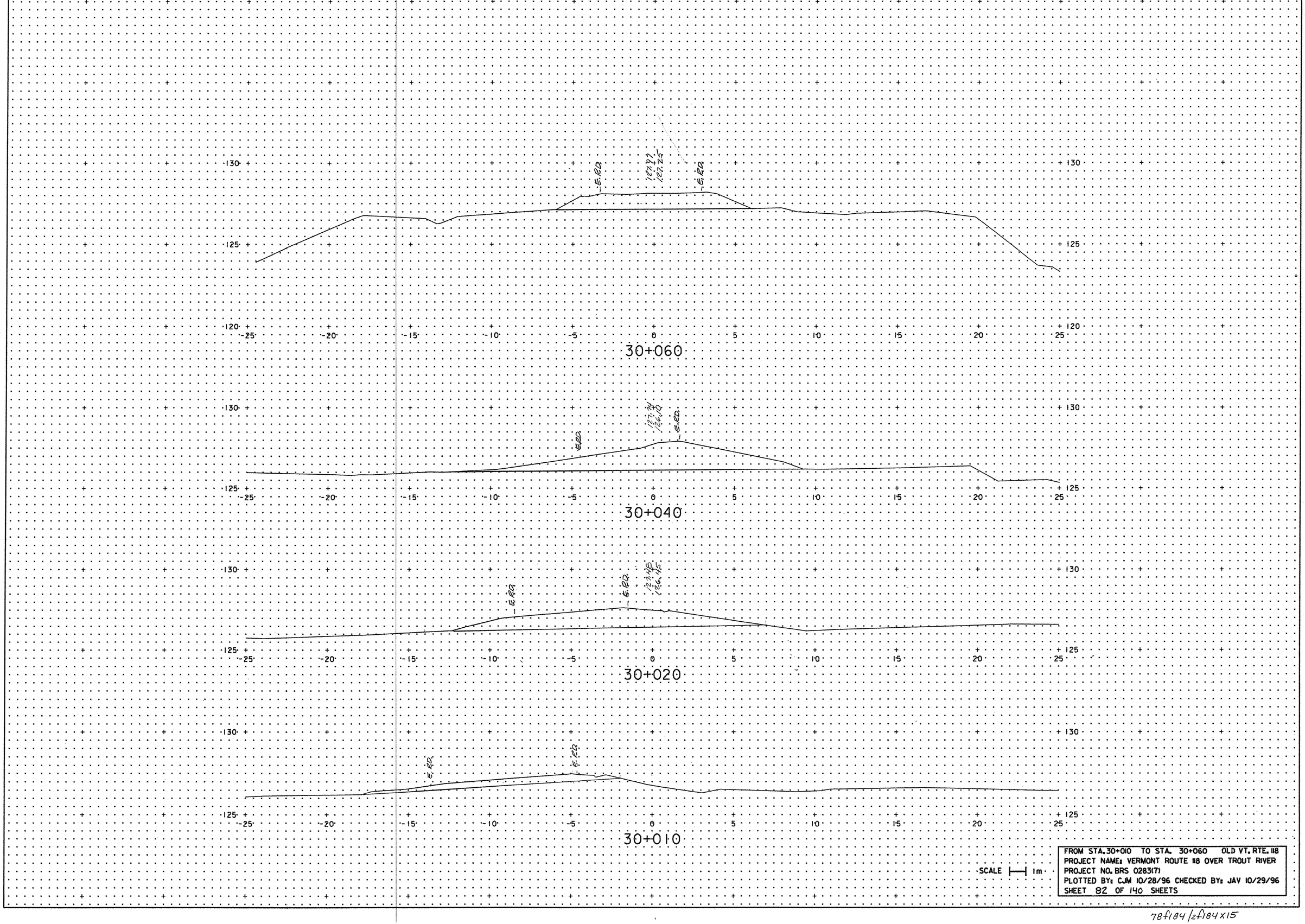
1-4

FROM STA. 20+060 TO STA. 20+096 REL. T.H. #42
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 81 OF 140 SHEETS

SCALE 1m

c:\user\3945620\02837xs6.dgn

78f184/zf184X14

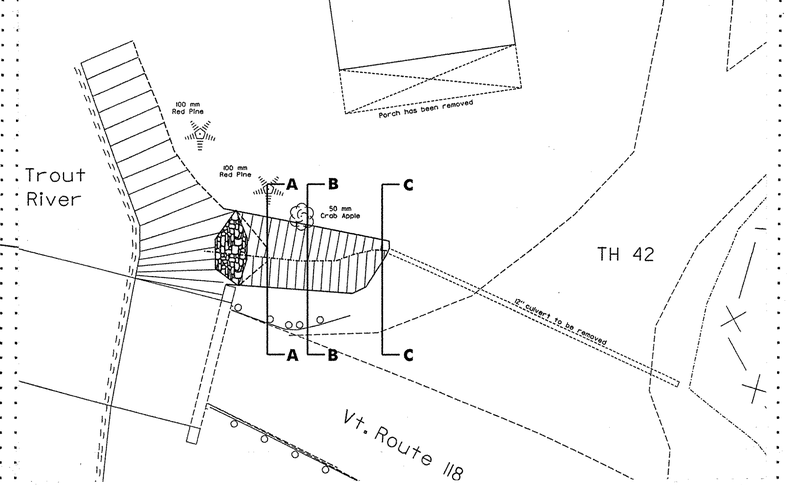


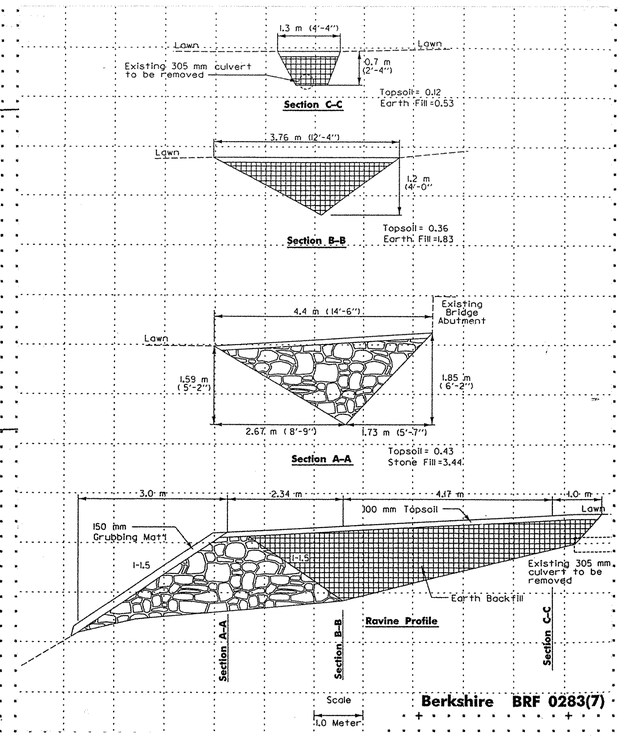

FROM STA. 30+010 TO STA. 30+060 OLD VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 82 OF 140 SHEETS

SCALE 1m

c:\user\jb45620\02837xsl.dgn

78f184 /zf184x15




Berkshire BRF 0283(7)

FROM STA. 30+070 TO STA. 30+115 OLD VT. RTE. 118
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 83 OF 140 SHEETS

SCALE 1m

c:\usr\19456201\02837rsk.dgn

78f184/zf184x16

135 130 125

-30 -25 -20 -15 -10 -5 0 5 10 15 20 25 30

40+045

128.74
131.94

REFER TO MAINLINE CROSS SECTIONS @ STA 10+350 RT.
FOR CONTINUATION OF DRIVE SECTIONS.

40+040

128.27
129.06

1-A 1-4

40+020

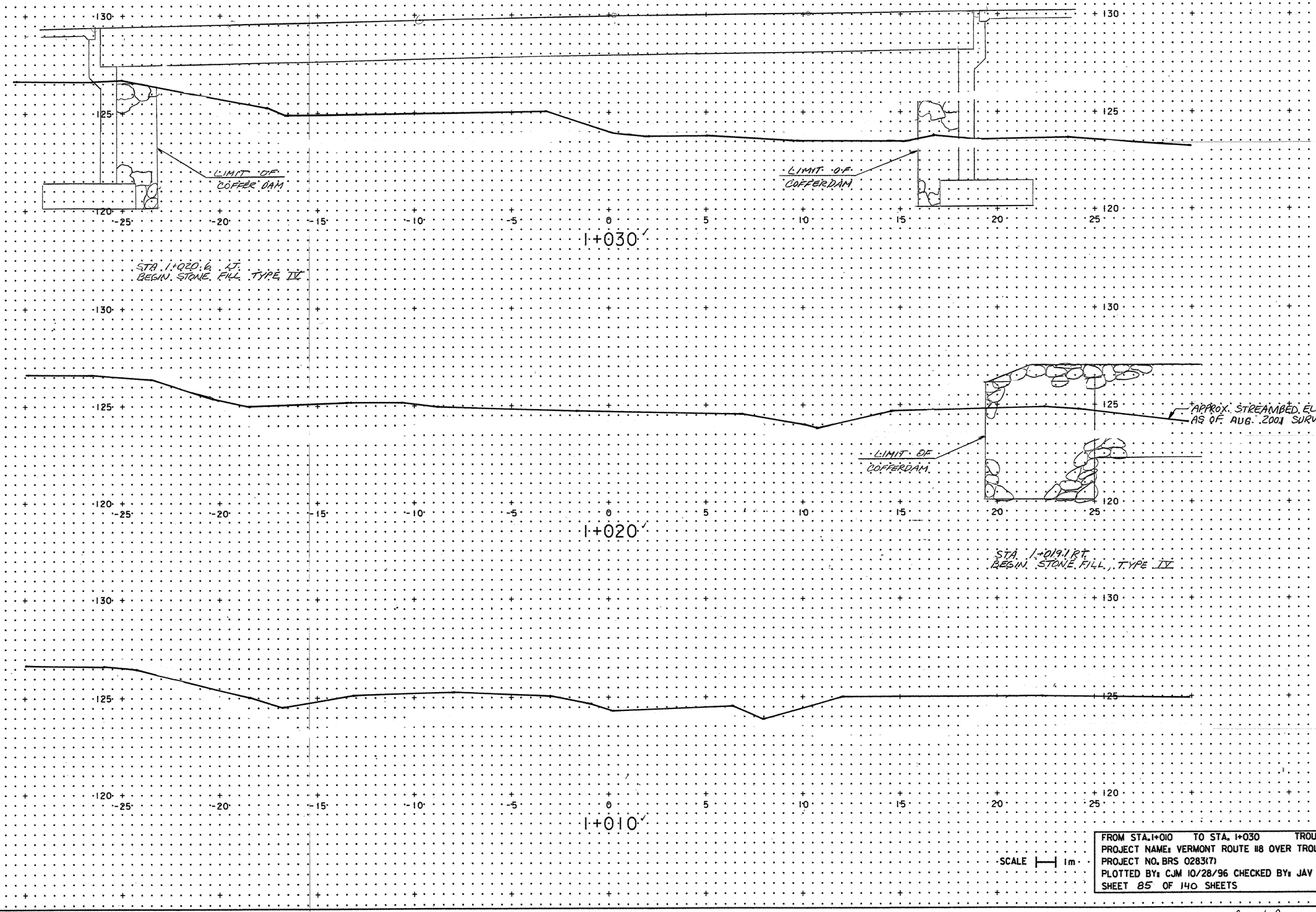
40+003

SCALE 1m

FROM STA. 40+000 TO STA. 40+045 FIELD DRIVE
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 84 OF 140 SHEETS

c:\usr\jb45620\02837xs.dgn

78f184/zf184X17

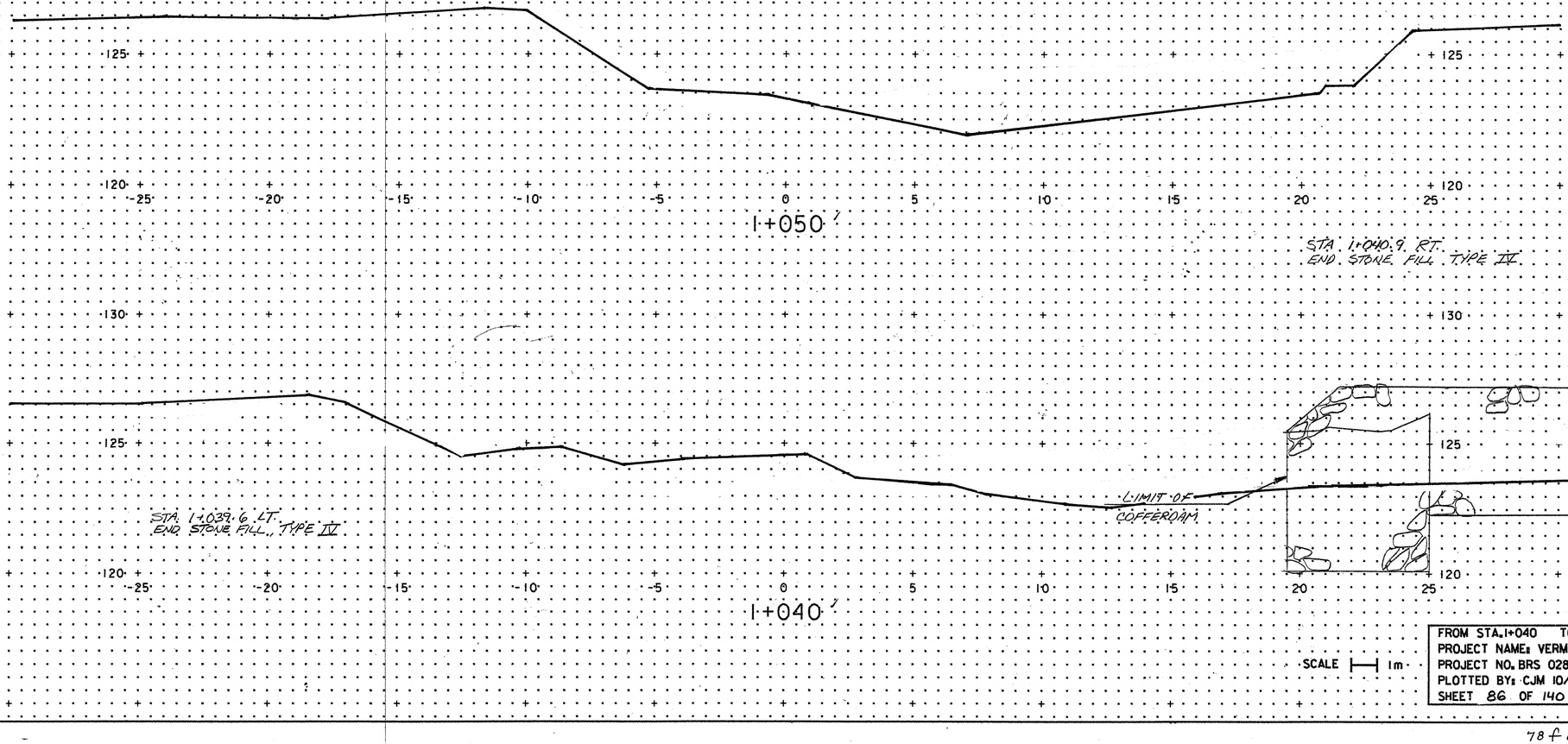



FROM STA. 1+010 TO STA. 1+030 TROUT RIVER
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 85 OF 140 SHEETS

SCALE 1m

c:\user\BM5620\02837x8.dgn

78f184/zf184cx1

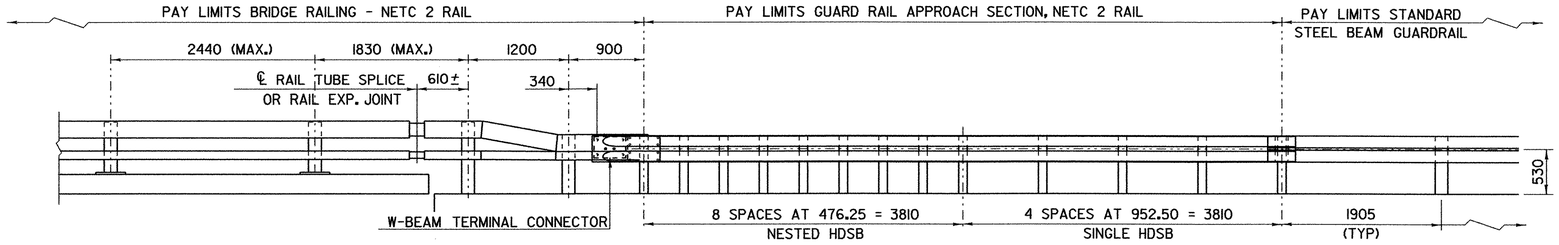



FROM STA. 1+040 TO STA. 1+050 TROUT RIVER
PROJECT NAME: VERMONT ROUTE 118 OVER TROUT RIVER
PROJECT NO. BRS 0283(7)
PLOTTED BY: CJM 10/28/96 CHECKED BY: JAV 10/29/96
SHEET 86 OF 140 SHEETS

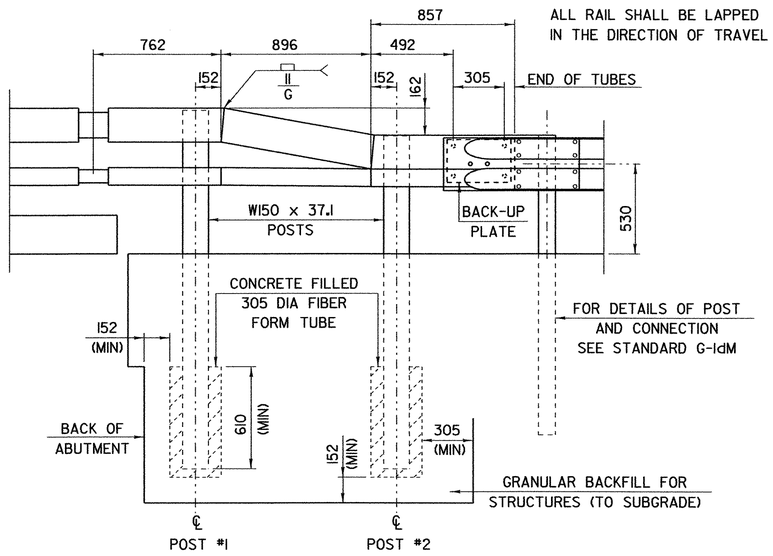
SCALE 1m

c:\user\jb45620\02837xsd.dgn

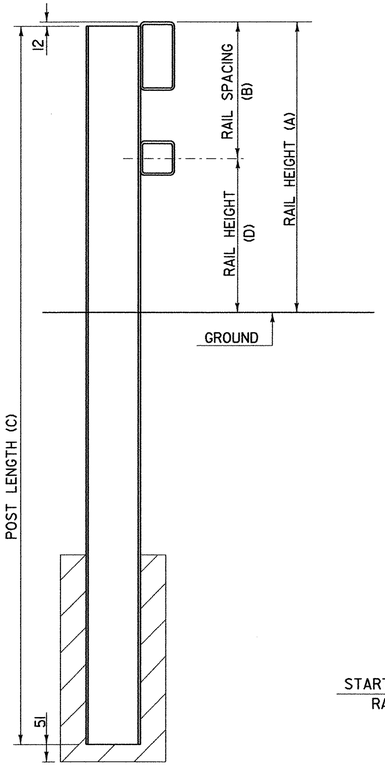
78 f 84/zf184cx2



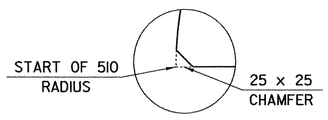

## RAILING TRANSITION ELEVATION




## ELEVATION

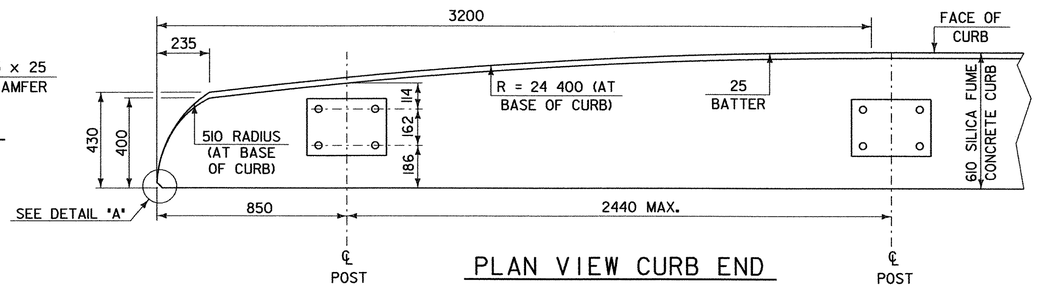



## TYPICAL SECTION

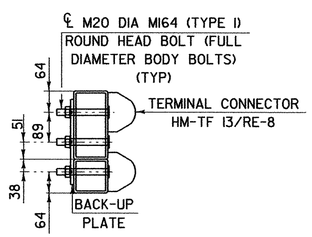



## DETAIL "A"

| POST NUMBER | RAIL HEIGHT (A) | RAIL SPACING (B) | POST LENGTH (C) | RAIL HEIGHT (D) |
|---|---|---|---|---|
| 1 | 860 | 405 | 2134 | 455 |
| 2 | 702 | 254 | 1956 | 448 |



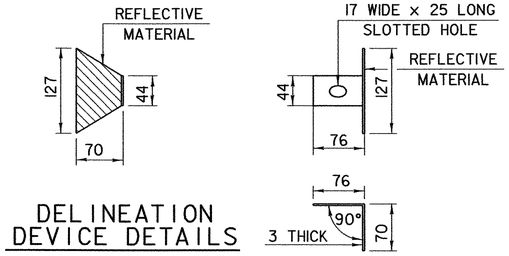

## PLAN VIEW CURB END



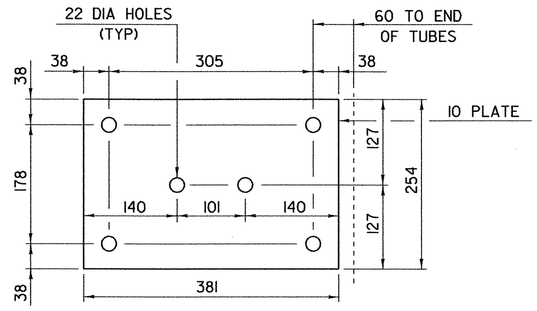

## SECTION THROUGH GUARD RAIL CONNECTION AT TERMINAL CONNECTOR

## NOTES:

1. REFER TO STANDARD DETAIL BRI-97M FOR ADDITIONAL DETAILS, NOTES AND MATERIAL SPECIFICATIONS.
2. TO FACILITATE FIELD FIT - UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKFILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE, AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO BRIDGE RAILING, N.E.TC. 2 RAIL.
3. THE REFLECTORIZED ALUMINUM DELINEATION IS TO BE ERECTED EVERY 9m (OR CLOSEST POST) WITH A M16 BOLT. DELINEATORS SHALL MEET SPECIFICATION REQUIREMENTS FOR ASTM B209 ALLOY 5052-H32.
4. REFLECTIVE MATERIAL SHALL MEET REQUIREMENTS OF SUBSECTION 750.08 AND SHALL BE OF ENCAPSULATED LENS SILVER OR AMBER. AMBER IS TO BE INSTALLED ON THE DRIVER'S LEFT AND SILVER ON THEIR RIGHT.
5. ON BRIDGES WITH A SIDEWALK, DELINEATORS ARE NOT TO BE INSTALLED ON THE SIDEWALK SIDE OF THE BRIDGE (I.E. DELINEATORS INSTALLED ONLY ON THE CURB SIDE AND ON THE APPROACH ON THE CURB SIDE). PAYMENT SHALL BE SUBSIDIARY TO ALL OTHER ITEMS.
6. ALL APPROACH RAIL SPLICES SHALL BE LAPPED IN THE DIRECTION OF TRAFFIC FLOW.
7. SEE STANDARD G-1M AND G-1dM FOR ADDITIONAL INFORMATION.




## DELINEATION DEVICE DETAILS

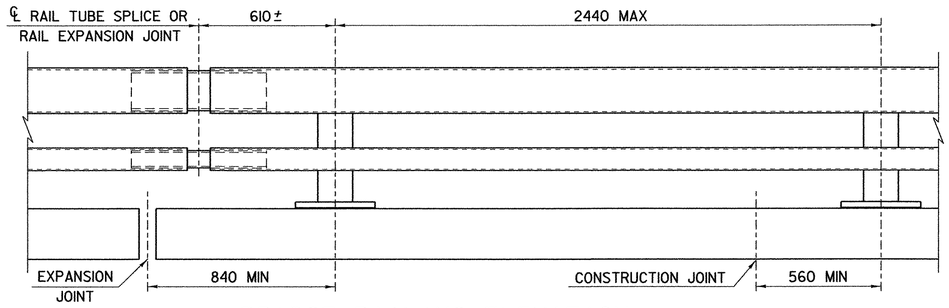



## BACK-UP PLATE

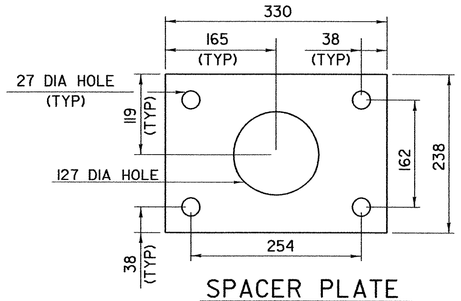
# NETC Rail Details

PROJECT NAME: BERKSHIRE
PROJECT NUMBER: BRF-RS 0283(7)

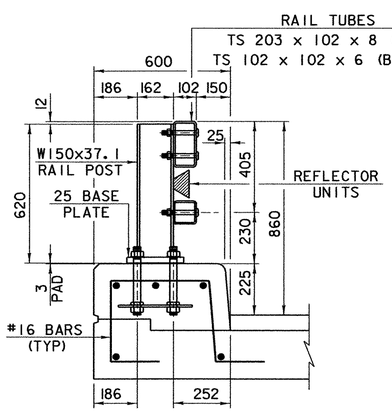
FILE NAME: str5/78f184/netcrail.dgn PLOT DATE: 13-AUG-2003
PROJECT LEADER: C. Keller DRAWN BY: G. Shangraw
DESIGNED BY: CHECKED BY:
brl-97m.i SHEET 87 OF 140



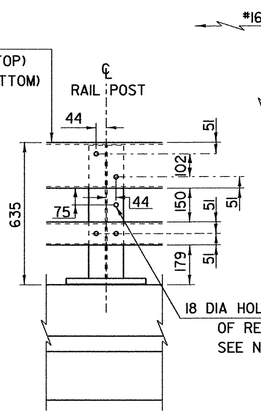

## BRIDGE RAILING ELEVATION



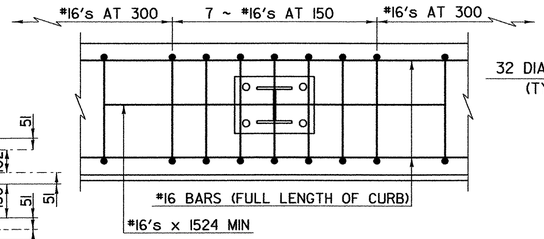

## SPACER PLATE



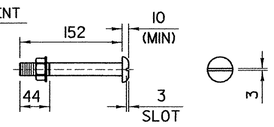

## TYPICAL SECTION




## ELEVATION

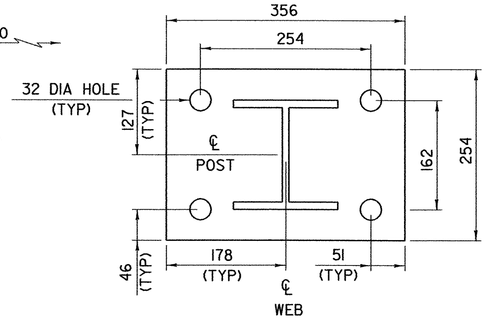



## CURB REINFORCING PLAN

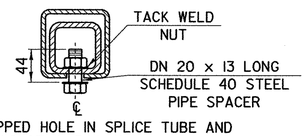



## M20 DIA M164M (TYPE 1) ROUND HEAD BOLT

(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE *9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.



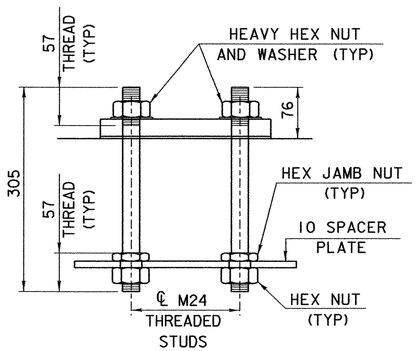

## POST AND BASE PLATE



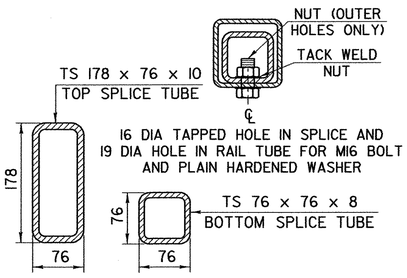

16 DIA TAPPED HOLE IN SPLICE TUBE AND
29 x 'C' SLOT IN RAIL TUBE FOR M16
BOLT AND PLAIN HARDENED WASHER

## EXPANSION JOINT SECTION

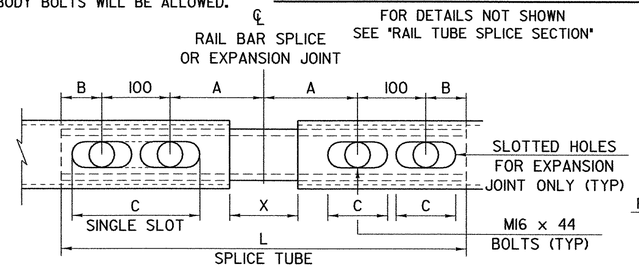
FOR DETAILS NOT SHOWN
SEE "RAIL TUBE SPLICE SECTION"




## RAIL POST ANCHORAGE

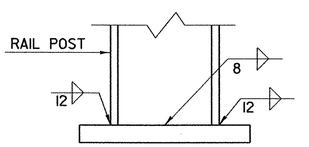



## RAIL TUBE SPLICE SECTION




## RAIL TUBE SPLICE AND RAIL EXPANSION JOINT DETAIL

(BOTTOM VIEW)




## BASE WELD DETAIL

## NOTES

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE PROVISIONS OF SECTION 525, "RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION."
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OF THE STANDARD SPECIFICATIONS FOR CONSTRUCTION," EXCEPT THAT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING IN THIS STANDARD.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
6. RAIL TUBE EXPANSION JOINTS SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT. EXPANSION JOINT WIDTH SHALL BE "X" AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT THAT HARDWARE SHALL MEET THE REQUIREMENTS OF AASHTO M232M.
8. RAIL POSTS ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
9. RAIL TUBES SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLTS INSERTED THROUGH THE FACE OF THE TUBE. HOLES HOLES IN POSTS SHALL BE 2mm LARGER THAN THE BOLT SIZE.
10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
11. IF THERE IS A CONFLICT BETWEEN THESE STANDARD DETAILS AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
13. THE FABRICATOR SHALL SUBMIT SHOP DRAWINGS INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
14. RAIL POST AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMENS.

## MATERIALS

RAIL TUBES.....ASTM A500, GRADE B OR ASTM A501
RAIL POSTS AND BASE PLATE.....ASTM A709/A709M, GRADE 345
ALL OTHER SHAPES AND PLATES.....ASTM A709/A709M, GRADE 250
ANCHOR STUDS.....ASTM FS68M CLASS 8.8
ALL OTHER BOLTS (UNLESS NOTED).....AASHTO M164M, TYPE 1

NUTS FOR AASHTO M164M (ASTM A325M) BOLTS AND ANCHOR STUDS SHALL COMPLY WITH AASHTO M291M (ASTM A563M).

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFICATIONS.

3mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.

| SPLICE TABLE | | | | | |
|---|---|---|---|---|---|
| T | A | B | C | L | X |
| NA | 100 | 50 | -- | 510 | 20 |
| EXPANSION JOINT TABLE | | | | | |
| <100 | 100 | 50 | 65 | 510 | 65 |
| >100 <165 | 140 | 60 | 90 | 605 | 105 |
| >165 <230 | 165 | 85 | 230* | 705 | 130 |
| >230 <330 | 215 | 110 | 280* | 860 | 180 |

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6
* = SINGLE SLOT

# NETC Rail Details

PROJECT NAME: BERKSHIRE
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: str5/78f184/netcrail.dgn PLOT DATE: 13-AUG-2003
PROJECT LEADER: C. Keller DRAWN BY: G. Shangraw
DESIGNED BY: CHECKED BY:
br2-97m.i SHEET 88 OF 140

INDEX OF SHEETS


| | |
|---|---|
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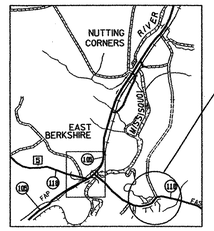
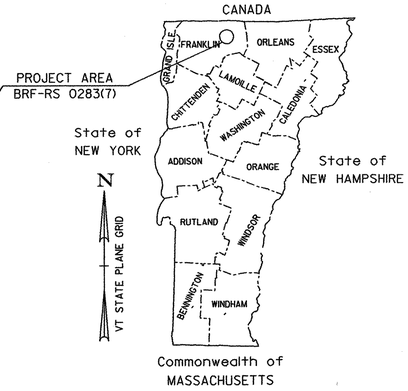
| 101 | TYPICAL SECTIONS |
| 102 | TIE SHEET |
| 103 | CONSTRUCTION BASELINE LAYOUT |
| 104 | R.O.W DETAIL SHEET |
| 105-108 | R.O.W. LAYOUT SHEETS |
| 109 | CONSTRUCTION SEQUENCE |
| 110 | CONSTRUCTION SITE PLAN |
| 111-113 | CONSTRUCTION PLAN SHEETS |
| 114 | PROFILE SHEET |
| 115 | PLANTING PLAN SHEET |
| 116 | PLANTING DETAIL SHEET |
| 117-121 | MISCELLANEOUS DETAIL SHEETS |
| 122-132 | CROSS SECTIONS |


# STATE OF VERMONT
# AGENCY OF TRANSPORTATION




DESIGN CRITERIA

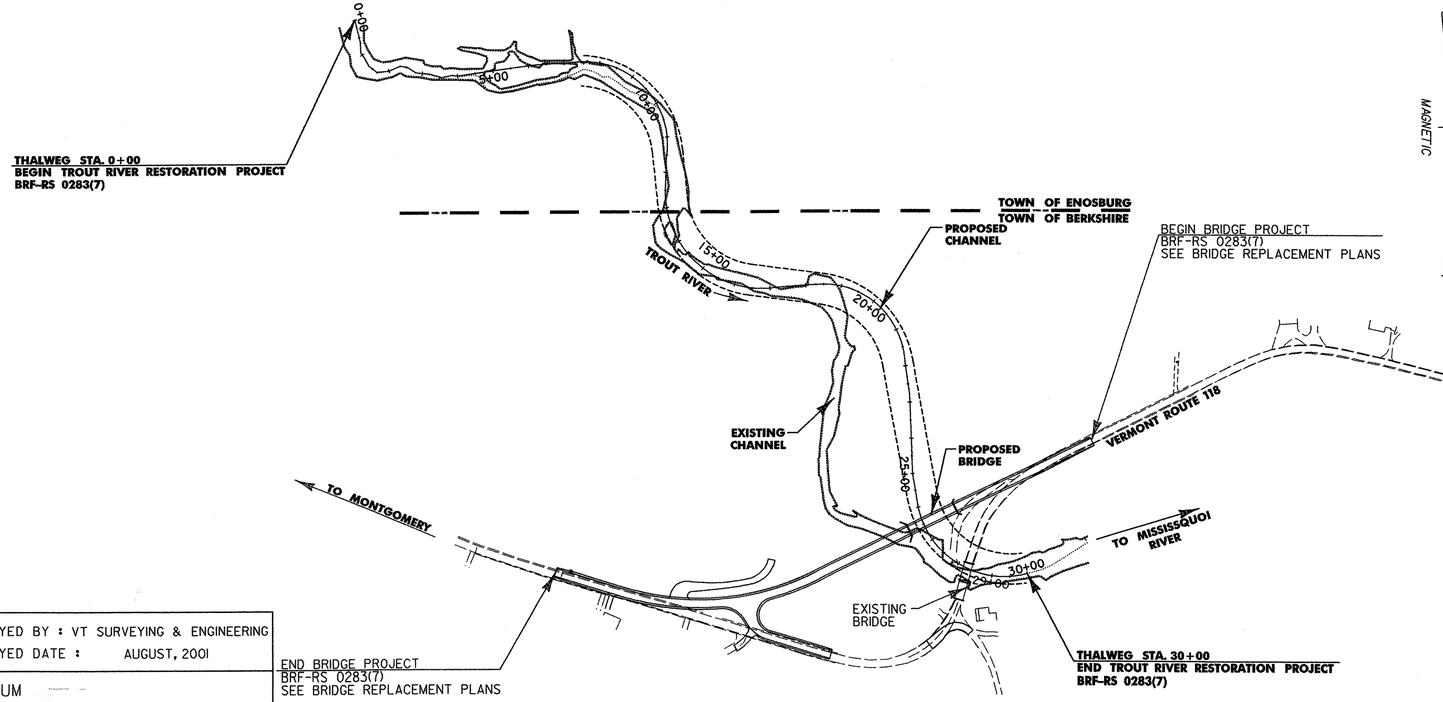
| | |
|---|---|
| DRAINAGE AREA = | 82 sq. mi. |
| BANKFULL WIDTH, $W_{bkf}$ = | 85 ft. |
| MEAN DEPTH, $d_{bkf}$ = | 3.7 ft. |
| WETTED PERIMETER, $W_p$ = | 92 ft. |
| HYDRAULIC RADIUS, R = | 3.42 ft. |
| CROSS SECTIONAL AREA, $A_{bkf}$ = | 315 sf |
| WIDTH FLOOD PRONE AREA, $W_{fpa}$ = | 190 ft. (min.) |
| BANKFULL FLOW, $Q_{bkf}$ = | 2000 cfs. |
| MEAN SLOPE, S = | 0.2% |
| $D_{50}$ BED PARTICLE SIZE = | 0.94 in. |
| $D_{84}$ BED PARTICLE SIZE = | 1.85 in. |
| $D_{90}$ BED PARTICLE SIZE = | 2.20 in. |

# PROPOSED IMPROVEMENT
# TOWNS OF BERKSHIRE AND ENOSBURG
# COUNTY OF FRANKLIN
# TROUT RIVER RESTORATION

BEGINNING AT A POINT APPROXIMATELY 2825 FEET UPSTREAM OF EXISTING BRIDGE #26 AND EXTENDING DOWNSTREAM 3000 FEET.

WORK TO BE PERFORMED UNDER THE RIVER RESTORATION PORTION OF THIS PROJECT INCLUDES STABILIZATION OF THE TROUT RIVER AND ESTABLISHMENT OF A RIPARIAN BUFFER ZONE. WORK TO BE PERFORMED UNDER THE BRIDGE REPLACEMENT PORTION OF THIS PROJECT IS OUTLINED IN THE BRIDGE REPLACEMENT PLANS.

LENGTH OF RIVER RESTORATION PROJECT: 3000 FEET.




## CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
HVCTRL
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS (SR SR SR)
TOP OF CUT
TOE OF SLOPE
WETLANDS
EDGE OF VEGETATION

SURVEYED BY : VT SURVEYING & ENGINEERING
SURVEYED DATE : AUGUST, 2001

DATUM
VERTICAL NAVD 88
HORIZONTAL N/A

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

STATE OF VERMONT — SCOTT A. ROGERS No. 7408 — 4/9/03 — PROFESSIONAL ENGINEER

Dufresne-Henry

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATOR
APPROVED _____ DATE _____

DIRECTOR OF PROGRAM DEVELOPMENT
APPROVED _____ DATE _____

PROJECT MANAGER : JOHN LEPORE

PROJECT NAME : TROUT RIVER RESTORATION
PROJECT NUMBER : BRF-RS 0283 (7)

SHEET 100 OF 140 SHEETS

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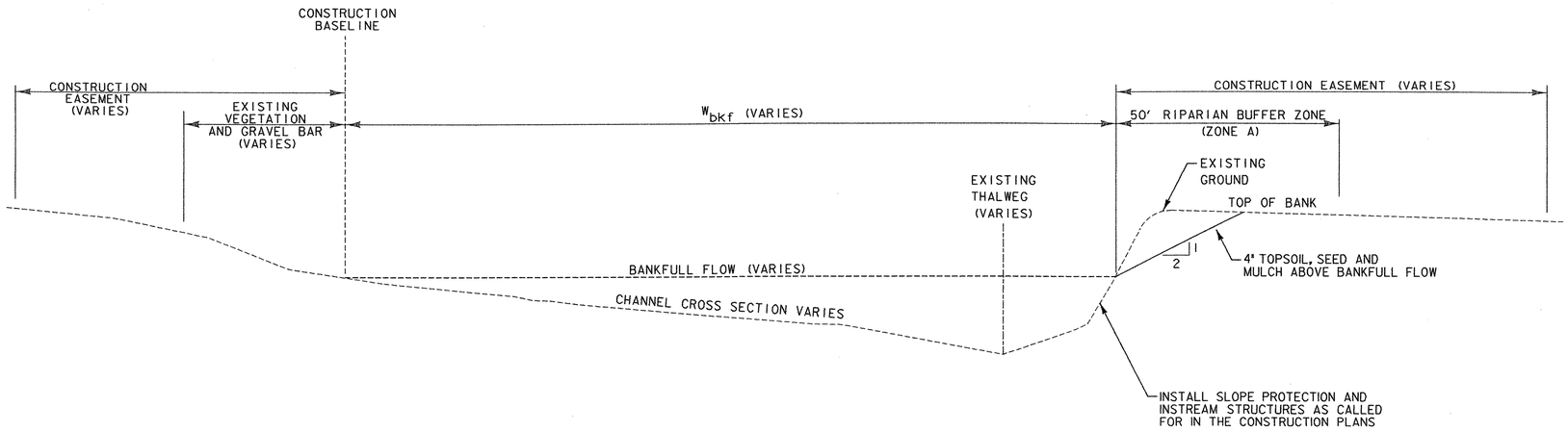
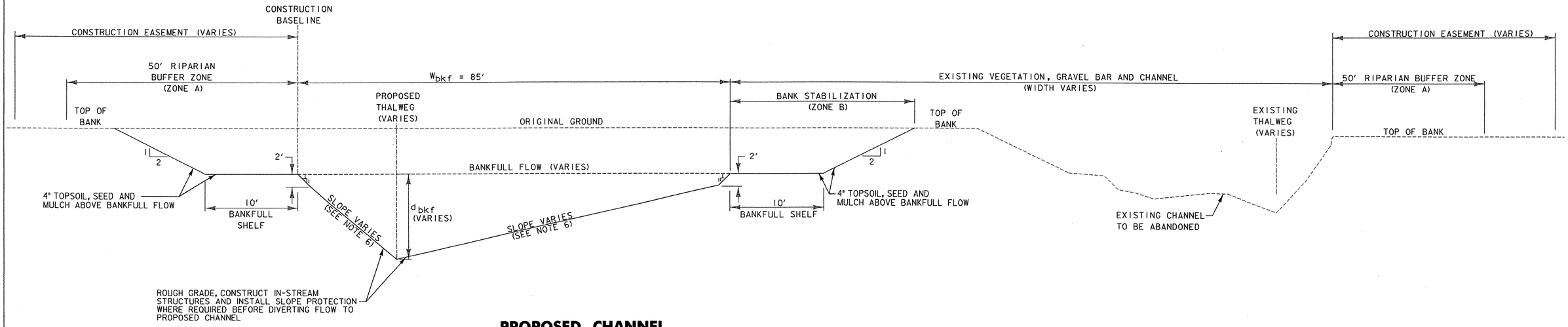
# TYPICAL SECTIONS




## EXISTING CHANNEL

N.T.S.




## PROPOSED CHANNEL

N.T.S.

## SEEDING FORMULA

| MIXTURE | LBS./ACRE | LBS./1000 SF |
|---|---|---|
| TALL FESCUE | 20 | 0.45 |
| CREEPING RED FESCUE | 20 | 0.45 |
| BIRDSFOOT TREFOIL | 8 | 0.20 |
| | 48 | 1.10 |

## SEEDING NOTES

SEED MIXTURE: SHALL NOT HAVE A WEED CONTENT EXCEEDING 0.40% BY WEIGHT AND SHALL BE FREE OF ALL NOXIOUS SEED.

SEED: TO BE APPLIED PER SEEDING FORMULAS OR AS DIRECTED BY THE ENGINEER.

FERTILIZER: FORMULA 10-20-10, TO BE USED WITH SEED, APPLIED AT THE RATE OF 30 LBS./1000 SQUARE FEET. (HYDRO SEEDERS MAY USE 19-19-19 FORMULA). (SEE NOTE 5).

AGRICULTURAL LIMESTONE: TO BE APPLIED AT THE RATE OF 75 TO 100 POUNDS PER PER 1000 SQUARE FEET, OR AS DIRECTED BY THE ENGINEER. (SEE NOTE 5) LIMESTONE SHALL CONTAIN NOT LESS THAN 95% CALCIUM AND MAGNESIUM CARBONATES.

STRAW MULCH: TO BE PLACED ON EARTH SLOPES AT THE RATE OF 2 TONS/ACRE, OR AS DIRECTED BY THE ENGINEER. STRAW MULCH SHALL BE DRY AND SHALL COME FROM WHEAT OR OATS, FREE FROM WEEDS, TWIGS AND DEBRIS. SHALL BE FREE FROM ROT AND MOLD.

MULCH NETTING: SHALL BE MADE OF PAPER, TWINE, PLASTIC OR PLASTIC AND WOOD FIBER.

TOPSOIL: TO BE USED WITH SEED AS INDICATED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

NOTES:

1. FOR LOCATION OF PROPOSED THALWEG, SEE CONSTRUCTION PLANS AND CROSS SECTIONS.
2. FOR LOCATION OF PROPOSED IN-STREAM STRUCTURES, SEE CONSTRUCTION PLANS.
3. FOR BANKFULL FLOW ELEVATIONS, SEE PROFILE. FOR BANKFULL WIDTHS, SEE CROSS SECTIONS.
4. FOR WIDTH AND LOCATION OF CONSTRUCTION EASEMENT, SEE ROW PLANS, CONSTRUCTION SITE PLAN AND CONSTRUCTION PLAN SHEETS.
5. FERTILIZER AND LIMESTONE ARE NOT TO BE UTILIZED WITHIN THE RIPARIAN BUFFER ZONE OR WITHIN 100 FEET OF THE CHANNEL.
6. SEE CONSTRUCTION PLANS AND CROSS SECTIONS FOR GRADING AND ELEVATIONS OF PROPOSED CHANNEL.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

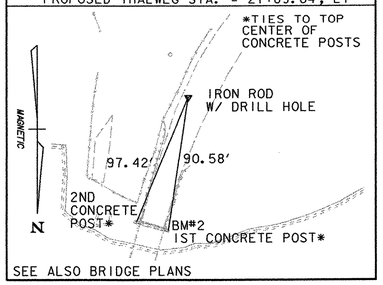
FILE NAME: zo2837frm.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**TYPICAL SECTION SHEET**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 101 OF 140

\\Proj Files\1001\plot\sl.plt 08/26/2003 08:55:51 AM

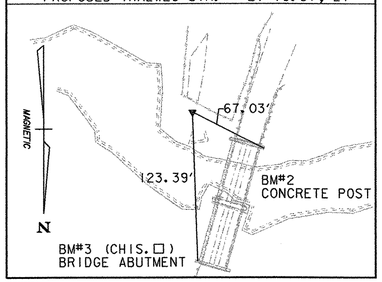
# TRAVERSE TIES

| TRAVERSE #10 |
|---|
| N = 85839.30′ |
| E = 90078.32′ |
| ELEV. = 418.61′ |
| CONSTRUCTION BASELINE STA. = 122+98.11, LT |
| PROPOSED THALWEG STA. = 27+89.64, LT |

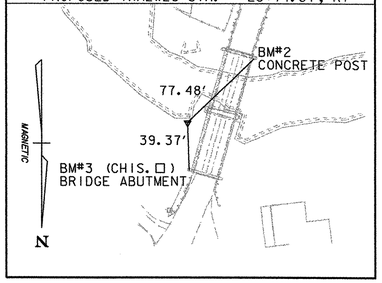



SEE ALSO BRIDGE PLANS

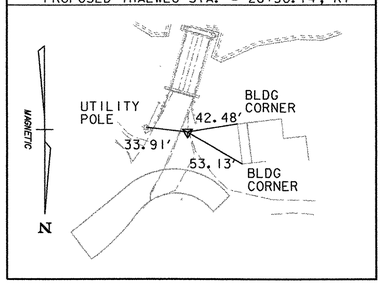
| HVCTRL #101 |
|---|
| N = 85920.26′ |
| E = 90154.61′ |
| ELEV. = 416.62′ |
| CONSTRUCTION BASELINE STA. = 122+84.35, RT |
| PROPOSED THALWEG STA. = 27+70.61, LT |




| HVCTRL #102 |
|---|
| N = 86004.65′ |
| E = 90152.47′ |
| ELEV. = 405.04′ |
| CONSTRUCTION BASELINE STA. = 123+17.94, RT |
| PROPOSED THALWEG STA. = 28+14.81, RT |




| HVCTRL #103 |
|---|
| N = 86080.97′ |
| E = 90132.99′ |
| ELEV. = 421.14′ |
| CONSTRUCTION BASELINE STA. = 123+46.34, RT |
| PROPOSED THALWEG STA. = 28+50.74, RT |




NO TIES ARE AVAILABLE FOR THE FOLLOWING HV CONTROL POINTS:

| HVCTRL #104 |
|---|
| N = 85788.65′ |
| E = 90525.54′ |
| ELEV. = 411.17′ |
| CONSTRUCTION BASELINE STA. = 121+12.61, RT |
| PROPOSED THALWEG STA. = 25+57.35, RT |

| HVCTRL #105 |
|---|
| N = 85232.68′ |
| E = 90461.34′ |
| ELEV. = 411.07′ |
| CONSTRUCTION BASELINE STA. = 121+91.51, RT |
| PROPOSED THALWEG STA. = 26+55.00, RT |

| HVCTRL #106 |
|---|
| N = 85587.30′ |
| E = 90571.98′ |
| ELEV. = 412.52′ |
| CONSTRUCTION BASELINE STA. = 106+05.82, LT |
| PROPOSED THALWEG STA. = 24+18.24, LT |

| HVCTRL #107 |
|---|
| N = 85569.78′ |
| E = 90706.71′ |
| |
| CONSTRUCTION BASELINE STA. = 112+52.00, RT |
| PROPOSED THALWEG STA. = 16+68.83, RT |

| HVCTRL #108 |
|---|
| N = 85220.52′ |
| E = 90524.30′ |
| ELEV. = 415.74′ |
| CONSTRUCTION BASELINE STA. = 115+10.02, RT |
| PROPOSED THALWEG STA. = 19+55.71, RT |

| HVCTRL #109 |
|---|
| N = 85142.93′ |
| E = 90887.09′ |
| ELEV. = 414.40′ |
| CONSTRUCTION BASELINE STA. = 110+66.23, LT |
| PROPOSED THALWEG STA. = 14+83.97, RT |

| HVCTRL #110 |
|---|
| N = 85073.75′ |
| E = 90813.39′ |
| ELEV. = 408.19′ |
| CONSTRUCTION BASELINE STA. = 110+51.28, RT |
| PROPOSED THALWEG STA. = 14+64.06, LT |

| HVCTRL #111 |
|---|
| N = 84796.75′ |
| E = 90983.34′ |
| ELEV. = 409.39′ |
| CONSTRUCTION BASELINE STA. = 107+64.37, LT |
| PROPOSED THALWEG STA. = 11+40.79, RT |

| HVCTRL #112 |
|---|
| N = 84691.26′ |
| E = 90586.21′ |
| |
| CONSTRUCTION BASELINE STA. = 107+38.51, LT |
| PROPOSED THALWEG STA. = 10+86.29, LT |

| HVCTRL #113 |
|---|
| N = 84608.92′ |
| E = 91170.32′ |
| ELEV. = 409.43′ |
| CONSTRUCTION BASELINE STA. = 103+78.62, LT |
| PROPOSED THALWEG STA. = 7+71.29, RT |

| HVCTRL #114 |
|---|
| N = 84589.65′ |
| E = 91335.69′ |
| ELEV. = 410.21′ |
| CONSTRUCTION BASELINE STA. = 101+98.16, RT |
| PROPOSED THALWEG STA. = 5+98.19, RT |

| HVCTRL #115 |
|---|
| N = 84575.24′ |
| E = 91363.16′ |
| ELEV. = 410.55′ |
| CONSTRUCTION BASELINE STA. = 101+72.32, RT |
| PROPOSED THALWEG STA. = 5+72.96, RT |

NOTES:

1. COORDINATE SYSTEM IS ASSUMED. SEE BRIDGE REPLACEMENT PLANS.
2. MAIN TRAVERSE COMPLETED BY VERMONT SURVEY AND ENGINEERING, AUGUST 2001.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: baselinetles.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
TIE SHEET

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 102 OF 140

...\plot files\00baselinetles.plt 04/09/2003 12:02:56 PM

CONSTRUCTION BASELINE POB Sta 96+00.00

CONSTRUCTION BASELINE Sta 100+00.00 =THALWEG STA 4+00

PC Sta 103+11.26

PI STA 106+05.09
PI AHEAD STA 104+78.21

S84°05'41.45"W

96+00 98+00 100+00 102+00 104+00 CURVE #1 106+00

HVCTRL #112
N84691.26
E90586.21

HVCTRL #114
N84589.65
E91335.69
ELEV. 410.21

CONST. BASELINE POB
N 84605.87
E 91935.37

HVCTRL #113
N84608.92
E91170.32
ELEV. 409.43

PT
Sta 107+72.04

HVCTRL #111
N84796.75
E90983.34
ELEV. 409.39

N06°38'43.17"W

108+00

PC
Sta 109+07.95

TOWN OF ENOSBURG

TOWN OF BERKSHIRE

HVCTRL #110
N85073.75
E90813.39
ELEV. 408.19

HVCTRL #108
N85232.54
E90430.69
ELEV. 415.48

PI BACK STA 116+01.25
PI AHEAD STA 115+43.19

110+00 CURVE #2 N82°35'37.63"W 112+00 114+00 CURVE #3 116+00

PI BACK STA 110+72.85
PI AHEAD STA 110+21.72

HVCTRL #109
N85142.93
E90887.09
ELEV. 414.40

PT Sta 111+86.62

PC Sta 113+87.86

PT
Sta 117+56.57

118+00

PROPOSED THALWEG

MAGNETIC

N

HVCTRL #107
N85569.78
E90706.71

N10°22'22.33"W

120+00

"TRAVERSE #10"
N85839.30
E90078.32
ELEV. 418.61

HVCTRL #104
N85788.65
E90525.54
ELEV. 411.17

PC
Sta 121+33.81

122+00 CURVE #4

PT = POE
Sta 124+52.71

124+53

CONST. BASELINE POE
N 85917.79
E 89961.56

VERMONT ROUTE 118

HVCTRL #101
N85920.26
E90154.61
ELEV. 416.62

BM #2
CONCRETE POST.
SEE NOTE 3

HVCTRL #105
N85232.68
E90461.34
ELEV. 411.07

PI BACK STA 123+34.38
PI AHEAD STA 122+52.14

HVCTRL #103
N86080.97
E90132.99
ELEV. 421.14

BM #3 (CHIS. □)
BRIDGE ABUT.
SEE NOTE 3

0 100 200
SCALE

DATUM:

VERTICAL NADV88
HORIZONTAL N/A

**CURVE #1**

R = 292.50
Δ = 90°15'32.42" RT.
D = 19°35'17.91"
L = 460.78
T = 293.83
M = 86.14
E = 122.10

**CURVE #2**

R = 207.50
Δ = 76°56'51.25" LT.
D = 27°36'44.76"
L = 278.67
T = 164.90
M = 45.05
E = 57.54

**CURVE #3**

R = 292.50
Δ = 72°13'19.53" RT.
D = 19°35'17.91"
L = 368.70
T = 213.38
M = 56.19
E = 69.56

**CURVE #4**

R = 207.50
Δ = 88°03'21.78" LT.
D = 27°36'44.76"
L = 318.90
T = 200.57
M = 58.31
E = 81.09

NOTES:

1. COORDINATE SYSTEM IS ASSUMED. SEE BRIDGE REPLACEMENT PLANS.
2. MAIN TRAVERSE COMPLETED BY VERMONT SURVEY AND ENGINEERING, AUGUST 2001. SEE HVCTRL POINTS, THIS SHEET, AND HVCTRL TIES ON TIE SHEET.
3. FOR BENCHMARK DATA, SEE BRIDGE REPLACEMENT PLANS. NOTE THAT BRIDGE REPLACEMENT PLANS ARE METRIC AND USE NGVD 1929 VERTICAL DATUM.
4. CONSTRUCTION BASELINE SHALL BE USED TO ESTABLISH CONSTRUCTION EASEMENT LOCATIONS AND WORKING AREAS. PROPOSED STRUCTURES AND PROFILE REFERENCE THE THALWEG STATIONS AND NOT THE CONSTRUCTION BASELINE.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: ...\103baseline.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH

**CONSTRUCTION BASELINE LAYOUT**

SHEET 103 OF 140

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# STATE OF VERMONT
# AGENCY OF TRANSPORTATION
# RIGHT OF WAY PLANS
# DETAIL SHEET

## TABLE OF PROJECT PROPERTY ACQUISITION

NOTE: ALL STATIONS REFER TO TROUT RIVER RESTORATION CONSTRUCTION BASELINE

| PARCEL NO. | GRANTOR | SHEET NO. | BEGINNING STATION | ENDING STATION | TAKING | REM. | RIGHTS | TITLE TAKEN | DATE | TOWN OR CITY RECORDED | BK. | PG. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1E | KINNEY, RAYMOND G. & VIRGINIA G. | 9,10,11 | 103+64.00 LT. | 113+92.02 LT. | 3.84 A± | | | | | ENOSBURG | | | 167,210 S.F.± |
| | | | 103+64.00 LT. | 114+27± LT. | | | CONST. (T) 1.42 A± | | | | | | 61,650 S.F.± |
| 1F | | 9,11,12 | 109+09.26 RT. | 121+73.03 RT. | 9.56 A± | | | | | BERKSHIRE | | | 416,650 S.F.± |
| | | | 109+26± RT. | 121+74± RT. | | | CONST. (T) 2.44 A± | | | | | | 106,290 S.F.± |
| | | | 113+92.02 LT. | 121+20.20 LT. | | | CONST. (T) 1.16 A± | | | | | | 50,360 S.F.± INCL. STABILIZED CONSTRUCTION ENTRANCE |
| | | | 121+50± RT. | 121+76± RT. | | | ACCESS (T) 0.27 A± | | | | | | 11,630 S.F.± INCL. STABILIZED CONSTRUCTION ENTRANCE (SEE SHEET 9) |
| 1G | | 9,12 | 123+40.80 LT. | 124+52.71 RT. | 0.28 A± | | | | | BERKSHIRE | | | 12,040 S.F.± |
| | | | 123+40.80 LT. | 124+52.71 LT. | | | CONST. (T) 3,520 S.F.± | | | | | | |
| | | | 124+52.71 LT. | 124+67± RT. | | | SLOPE (T) 240 S.F.± | | | | | | |
| 2A | KOTORMAN, DANIEL F. & HOLLY H. | 9,12 | 123+49± RT. | 124+52.71 RT. | | | BUFFER (P) 0.22 A± | | | BERKSHIRE | | | 9,660 S.F. |
| 11 | L.F. HURTUBISE AND SONS, INC. | 9,10,11 | 96+04.00 LT. | 108+31.56 RT. | 2.12 A± | | | | | ENOSBURG | | | 39,270 S.F.± |
| | JOINED BY VERMONT LAND TRUST, INC., VERMONT DEPARTMENT OF AGRICULTURE, FOOD AND MARKETS, AND VERMONT HOUSING AND CONSERVATION BOARD | | 99+90± RT. | 104+90.73 RT. | | | CONST. (T) 0.90 A± | | | | | | 92,220 S.F.± |
| | NOTE: ALL TEMPORARY RIGHTS WILL EXPIRE 3 YEARS AFTER PROJECT COMPLETION AND ACCEPTANCE. | | | | | | | | | | | | |

| REVISION NO. | SHEET | DESCRIPTION OF REVISION | DATE | MADE BY | APPROVED BY |
|---|---|---|---|---|---|

TROUT RIVER RESTORATION
R. O. W. PLANS

BERKSHIRE
BRF RS 0283( 7)

SHEET 104 OF 140

DR. (P)- DRAINAGE RIGHT
DIT. (P)- DITCHING RIGHT
CH. (P)- CHANNEL RT.
DRIVE (T)- DRIVE RIGHT
CUL. (P)- CULVERT RIGHT
[W]- WATER SOURCES

PRESENT R.O.W.
TAKING WITHOUT ACCESS
TAKING WITHOUT ACCESS ALONG PROPERTY LINE
TAKING WITH ACCESS
(P) PERMANENT EASEMENT
(T) TEMPORARY EASEMENT

LEGEND
C&T (P) CLEARING & TRIMMING
CZ (P) CLEAR ZONE
CONST. (T) CONSTRUCTION EASEMENT
SR SR SLOPE RIGHTS
P L PROPERTY LINE
TOP OF CUT
TOE OF SLOPE
UE (P) PERMANENT UTILITY EASEMENT

APPROVED: ROGER P. DUMAS DATE: 12-12-02
CHIEF, PLANS & TITLES

ACCT.**USERNAME**
DGN*SPECIFICATION*****************
DATE PLOTTED 03/31/2003
/prop/78f184/rf184dl.i

MM 03/31/2003 08:51:56 \\Highway\Users\prj\MM\detail.dgn

N

VT STATE PLANE GRID

KINNEY,
RAYMOND G. & VIRGINIA G.

KINNEY,
RAYMOND G. & VIRGINIA G.

L.F. HURTUBISE
AND SONS, INC.,
ET AL.

11

1E

TOWN OF ENOSBURG

TOWN OF BERKSHIRE

KINNEY,
RAYMOND G. & VIRGINIA G.

1F

L.F. HURTUBISE
AND SONS, INC.,
ET AL.

KINNEY,
RAYMOND G. & VIRGINIA G.

TO EAST BERKSHIRE

VT. RTE. 108

TO MONTGOMERY

KINNEY,
RAYMOND G. & VIRGINIA G.

1G

1F

ACCESS(T)

2A

STATE OF
VERMONT

KOTORMAN,
DANIEL F.
& HOLLY H.

0 100 200
SCALE

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

VTrans Getting To Get You There VERMONT AGENCY OF TRANSPORTATION

TROUT RIVER RESTORATION

Dufresne-Henry

PROJECT NAME: BERKSHIRE
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: 78f184\rightofway\ROW.I
PROJECT LEADER:
DESIGNED BY:
**RIGHT-OF-WAY PLANS**

PLOT DATE: 03/31/2003
DRAWN BY: EGP
CHECKED BY:
SHEET 105 OF 140

\rightofway\dsk\rightofway.dgn 03/31/2003 07:41:15 AM

N

VT STATE PLANE GRID

KINNEY,
RAYMOND G. & VIRGINIA G.

KINNEY,
RAYMOND G. & VIRGINIA G.

HVCTRL #114
N84589.65
E91335.69
ELEV. 410.21

Sta 103+11.26
LRP

Sta 100+00.90
=THALWEG STA. 4+00

103+64.00
50.00'LT.

80'

CONST(T)

293.91'

BUFFER

105+75.00
130' LT.

80'

CONST(T)

106+15.00
50.00'LT.

[558.49']

104+00

103+64.00
36' LT.+/-

CURVE #1

1E

106+00

106+43+/-
27' RT.+/-

MATCHLINE - STA. 10+50 - SEE RIGHT-OF-WAY PLAN - SHEET #107 OF 140

97+23+/-
98'+/-LT.

96+04.00
46.00' LT.

129.80'

POB
STA 96+00.00

69.96'

96+00

97+00

98+00

99+00

100+00

102+00

S84°08'41.45"W

716'+/-

P
L

FLOW

716'+/-

273'+/-

11

96+32.00
18.00' RT.

103.31'

97+24.00
65.00' RT.

96.00'

BUFFER

98+20.00
65.00' RT.

161.94'

99+80.00
90.00' RT.

91.92'

100+65.00
125.00' RT.

220.23'

BUFFER

102+85.00
135.00' RT.

11

CONST(T)

120'

HVCTRL #113
N84608.92
E91170.32
ELEV. 409.43

132.82'

104+90.73
250.00' RT.

[355'+/-]

L.F. HURTUBISE
AND SONS, INC.,
ET AL.

CONST(T)

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 40 80
SCALE

TROUT RIVER RESTORATION

VTrans Working to Get You There
VERMONT AGENCY OF TRANSPORTATION

Dufresne-Henry

PROJECT NAME: BERKSHIRE
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: 78f184\rightofway\ROW01.1
PROJECT LEADER:
DESIGNED BY:
**RIGHT-OF-WAY PLANS**

PLOT DATE: 16-DEC-2002
DRAWN BY: EGP
CHECKED BY:
SHEET 106 OF 140

...\Highway\Design\ROW01.dgn 12/31/2003 10:41:45 AM

VT STATE PLANE GRID

N

MATCHLINE - STA. 10+50 - SEE RIGHT-OF-WAY PLANS SHEET #106 OF 140

MATCHLINE - STA. 22+50 - SEE RIGHTH-OF-WAY PLANS SHEET #108 OF 140

CONST(T)

113+92.02
176.19'LT.

114+50.00
170'LT.

114+25.00
150.00'LT.

116+00.00
123'LT.

117+56.67
100'LT.

57.61'

[558.49']

100.08'

114+28.00
50.00'LT.

[948.36']

BUFFER

KINNEY,
RAYMOND G. & VIRGINIA G.

1E

1F

TOWN OF ENOSBURG
TOWN OF BERKSHIRE

775.00'
775.00'

HVCTRL #108
N85232.54
E90430.69
ELEV. 415.48

HVCTRL #110
N85073.75
E90813.39
ELEV. 408.19

HVCTRL #111
N84796.75
E90983.34
ELEV. 409.39

FLOW

FLOW

11

P L

103.71'

[355'+/-]

L.F. HURTUBISE
AND SONS, INC.,
ET AL.

108+31.56
311.19'RT.

P L

101'+/-

108+96.90
366.12'RT.

14.88'

109+09.26
368.53'RT.

P L

253.15'

109+55.00
135.00'RT.

382.31'

BUFFER

115'

CONST(T)

HVCTRL #109
N85142.93
E90887.09
ELEV. 414.40

KINNEY,
RAYMOND G. & VIRGINIA G.

111+86.62
135.00'RT.

50.00'

111+86.62
185.00'RT.

[110.00']

236.96'

44'

117+90.00
320.00'RT.

CONST(T)

L.F. HURTUBISE
AND SONS, INC.,
ET AL.

LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

0 40 80
SCALE

VTrans Working To Get You There
VERMONT AGENCY OF TRANSPORTATION

Dufresne-Henry

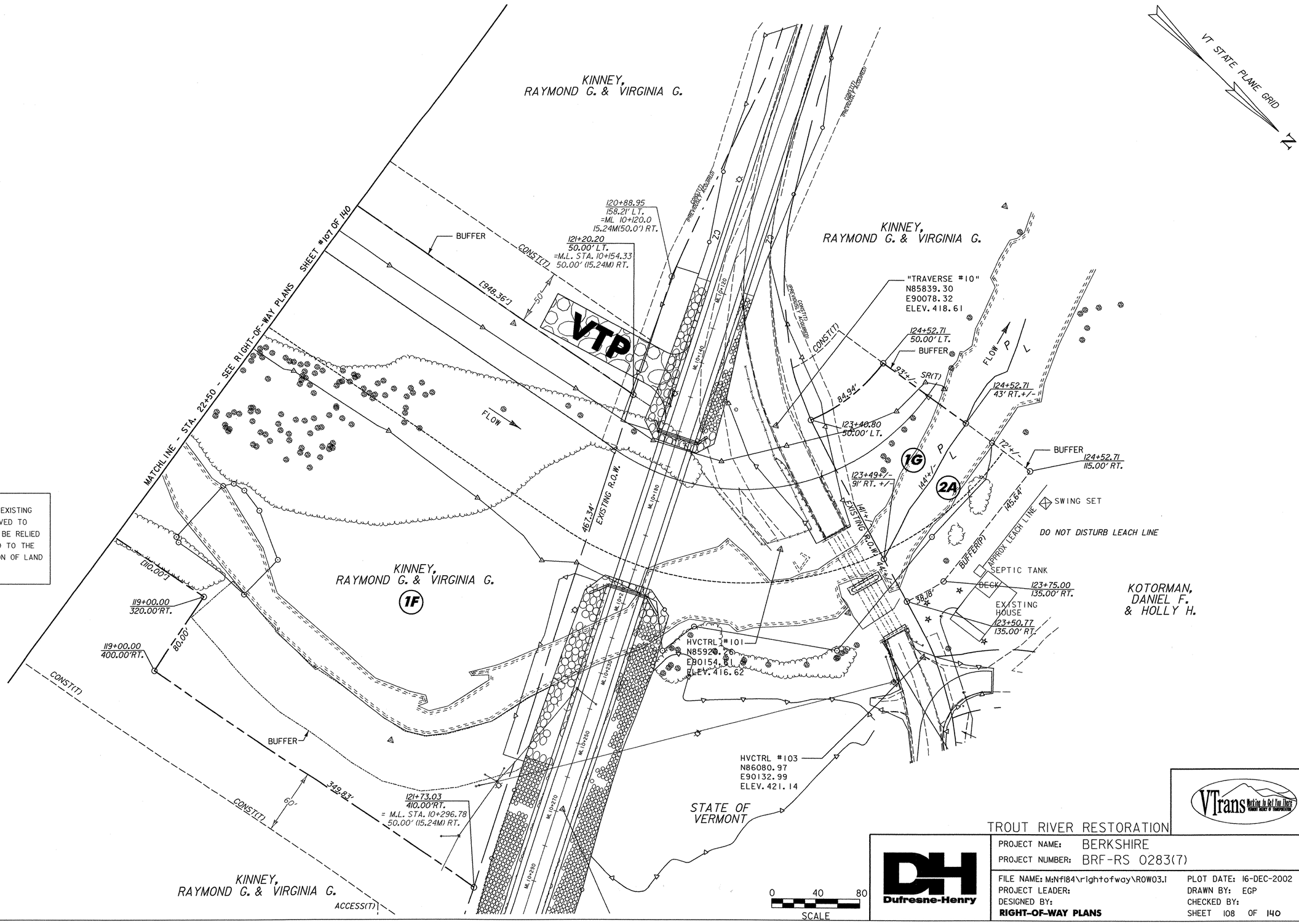
TROUT RIVER RESTORATION

PROJECT NAME: BERKSHIRE
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: M:78f184\rightofway\ROW02.1
PROJECT LEADER:
DESIGNED BY:
**RIGHT-OF-WAY PLANS**

PLOT DATE: 16-DEC-2002
DRAWN BY: EGP
CHECKED BY:
SHEET 107 OF 140

...\Highway\dgn\ROW02.dgn 03/31/2003 07:43:21 AM




LINES SHOWN ON THIS PLAN AS EXISTING PROPERTY LINES P/L ARE BELIEVED TO BE ACCURATE BUT SHOULD NOT BE RELIED UPON FOR PURPOSES UNRELATED TO THE STATE OF VERMONT'S ACQUISITION OF LAND AND RIGHTS FOR THIS PROJECT.

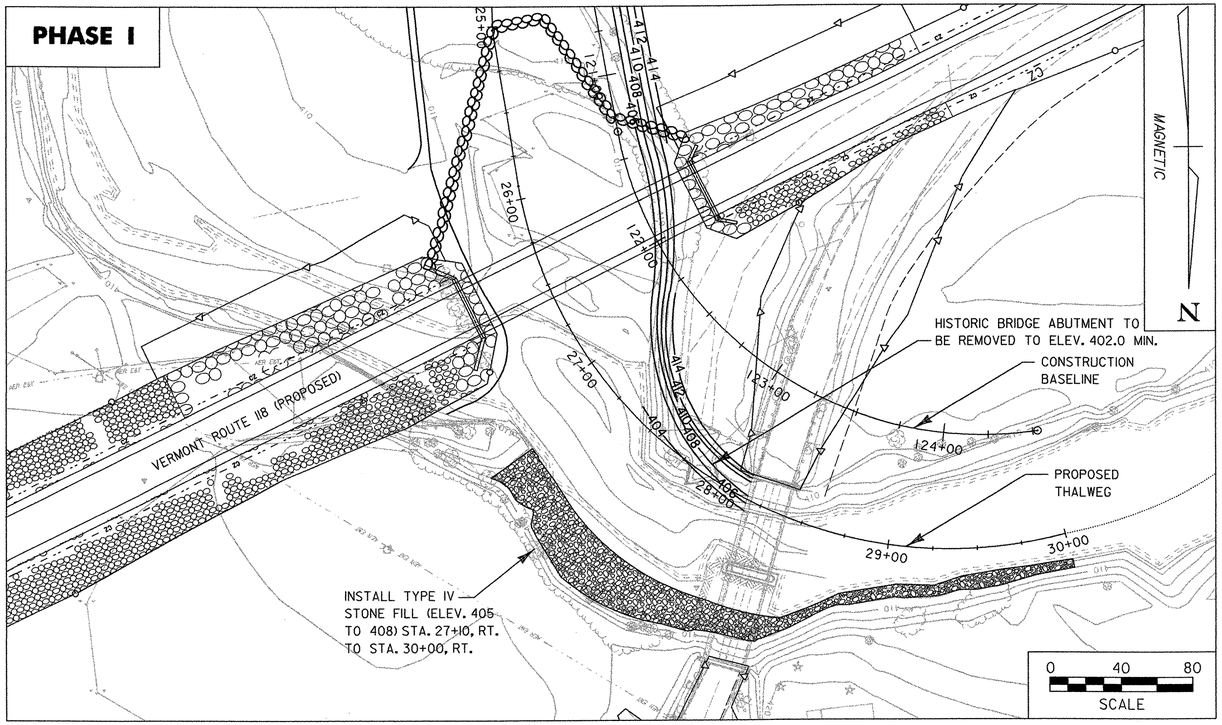
VTrans Putting As Get You There

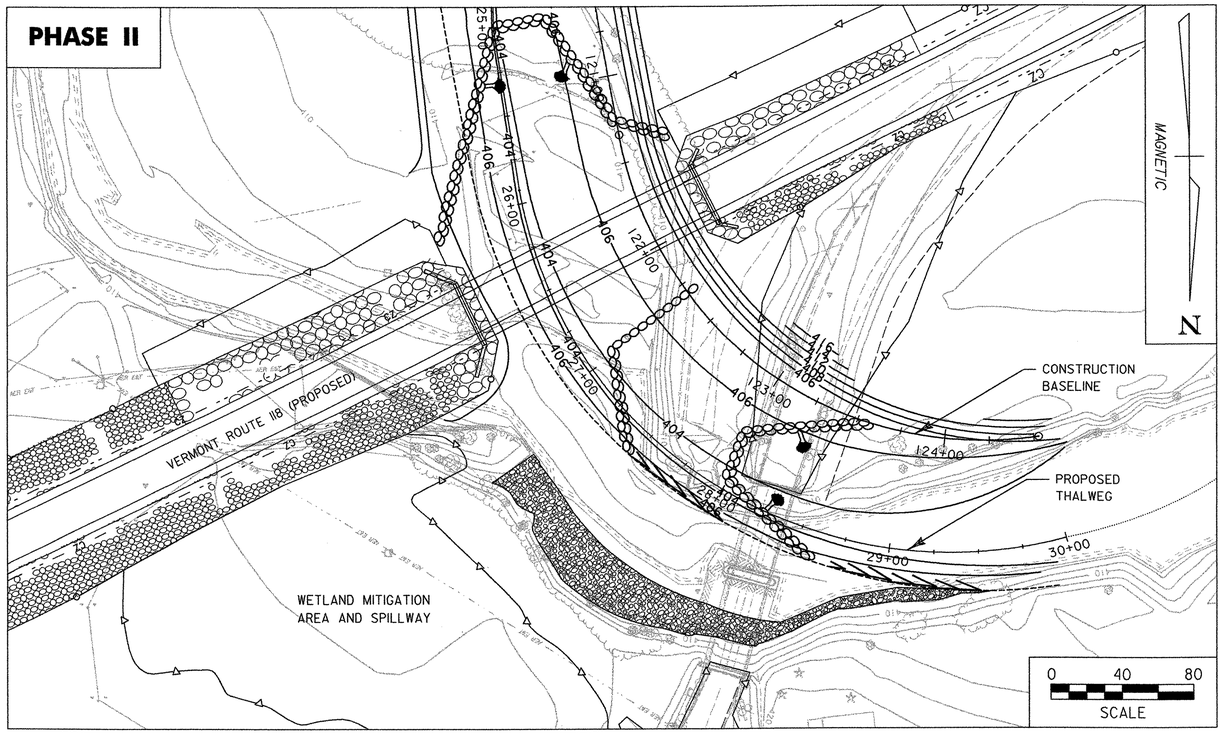
TROUT RIVER RESTORATION

Dufresne-Henry

| | |
|---|---|
| PROJECT NAME: BERKSHIRE | |
| PROJECT NUMBER: BRF-RS 0283(7) | |
| FILE NAME: M:Nf184\rightofway\ROW03.i | PLOT DATE: 16-DEC-2002 |
| PROJECT LEADER: | DRAWN BY: EGP |
| DESIGNED BY: | CHECKED BY: |
| **RIGHT-OF-WAY PLANS** | SHEET 108 OF 140 |

...\Highway\Design\right0fway\ROW03.dgn 12/31/2015 10:42:59 AM




## GENERAL NOTES:

1. PRIOR TO COMMENCING SITE WORK, THE CONTRACTOR SHALL VERIFY EXISTING FIELD CONDITIONS. THE ENGINEER SHALL BE NOTIFIED AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO THE START OF CONSTRUCTION WHERE DISCREPANCIES EXIST BETWEEN THE CONSTRUCTION DRAWINGS AND ACTUAL FIELD CONDITIONS. WORK WILL NOT BE ALLOWED IN THE RIVER FROM SEPT 20 TO JULY 1 WITHOUT WRITTEN PERMISSION FROM THE AGENCY OF NATURAL RESOURCES RIVER MANAGEMENT SECTION, THE ARMY CORPS OF ENGINEERS AND THE ENGINEER.
2. THE CONTRACTOR SHALL CONTACT DIG SAFE (1-888-344-7233) SEVENTY-TWO (72) HOURS PRIOR TO START OF CONSTRUCTION TO ACCURATELY ESTABLISH THE LOCATION OF ALL UNDERGROUND UTILITIES LOCATED ON THE PROJECT SITE.
3. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING ON-SITE WITH THE RESIDENT ENGINEER, LANDOWNERS, AGENCY OF TRANSPORTATION, ARMY CORPS OF ENGINEERS, AGENCY OF NATURAL RESOURCES, AND DISTRICT #6 ACT 250 COORDINATOR TO REVIEW THE EROSION AND SEDIMENT CONTROL REQUIREMENTS, LIMITS OF WORK, EQUIPMENT REFUELLING AND MAINTENANCE AREAS, MATERIAL STORAGE AREAS AND SEQUENCE OF CONSTRUCTION.
4. THE CONTRACTOR SHALL PROVIDE FORTY-EIGHT (48) HOURS NOTICE PRIOR TO INITIATION OF CONSTRUCTION TO THE LANDOWNER, THE RESIDENT ENGINEER AND THE AGENCY OF TRANSPORTATION.
5. THE CONTRACTOR SHALL DELINEATE THE REQUIRED WORKING AREA WITH ORANGE SNOW FENCE ON SITE PRIOR TO THE START OF CONSTRUCTION. SEE CONSTRUCTION SITE PLANS. ALL OPERATIONS SHALL BE CONFINED TO THE DELINEATED AREA. OPERATION OF EQUIPMENT IN THE STREAM SHALL BE MINIMIZED.
6. ON-SITE EQUIPMENT REFUELLING AND MAINTENANCE SHALL BE CONFINED TO DESIGNED AREAS, AS APPROVED BY THE ENGINEER.
7. ALL FILL TO BE PLACED IN AND AROUND EXISTING AND PROPOSED CHANNEL (INCLUDING ALL MATERIAL USED IN CONSTRUCTION OF STRUCTURES) SHALL BE CLEAN AS APPROVED BY THE ENGINEER PRIOR TO PLACEMENT.
8. WORKING AREAS, ACCESS POINTS, AND TEMPORARY MATERIAL STORAGE AREAS MUST BE PRE-APPROVED BY AGENCY OF TRANSPORTATION ENVIRONMENTAL SECTION PRIOR TO START OF CONSTRUCTION, AND ARE TO BE MAINTAINED IN GOOD CONDITION BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION THESE AREAS SHALL BE ROTOTILLED (IF REQUIRED) TO REVERSE COMPACTION AND RETURNED TO ORIGNAL OR BETTER CONDITION.
9. DEBRIS AND EXCESS MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONRACTOR IN A LOCATION APPROVED OF BY THE ENGINEER. IF REQUIRED THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING A SOLID WASTE PERMIT FROM THE AGENCY OF NATURAL RESOURCES SOLID WASTE MANAGEMENT DIVISION PRIOR TO DISPOSAL OF STUMPS, CONCRETE, ETC.
10. ALL FINISHED GRADES SHALL BE PERMANENTLY STABILIZED IN ACCORDANCE WITH THE PLANTING PLAN AND SPECIFICATIONS. OTHERWISE, WHEN CONSTRUCTION IS COMPLETE, THE CONTRACTOR SHALL STABILIZE ANY REMAINING DISTURBED AREAS. WITH THE APPROVAL OF THE ENGINEER, SEDIMENT CONTROL DEVICES SHALL BE REMOVED. ANY AREAS DISTURBED BY SEDIMENT CONTROL REMOVAL SHALL BE STABILIZED. ANY ROAD, PARKING AREA AND TRAIL USED FOR CONSTRUCTION ACCESS, MATERIAL STOCKPILING/WORKING AREAS OR OTHER CONSTRUCTION RELATED ACTIVITIES SHALL BE ROTOTILLED (IF REQUIRED) TO REVERSE COMPACTION FROM HEAVY VEHICLE USAGE AND REPAIRED TO ORIGINAL OR BETTER CONDITION.
11. TEMPORARILY STABILIZE ALL DISTURBED AREAS AT THE END OF EACH WORKING DAY.

## RIVER RESTORATION CONSTRUCTION SEQUENCE:

**PHASE I:**

1. INSTALL EROSION PREVENTION AND SEDIMENT CONTROL MEASURES AS DETAILED IN THE EROSION CONTROL PLANS. SEE EROSION PREVENTION AND SEDIMENT CONTROL PHASE I - STEP 1 THROUGH STEP 4.
2. REMOVE HISTORIC ABUTMENT AT STA. 28+00, LT. GRADE AS SHOWN AND STABILIZE BANK.
3. INSTALL RIP-RAP BANK PROTECTION: TYPE IV STONE FILL (ELEV. 405 TO ELEV. 408), STA. 27+10, RT - STA. 30+00, RT.
4. CONSTRUCT NEW CHANNEL, IN-CHANNEL STRUCTURES, AND BANK STABILIZATION AS REQUIRED, STA. 19+00 - STA. 26+75.
5. CONSTRUCT CHANNEL BLOCK AT STA. 18+50, DIVERTING FLOW TO PROPOSED CHANNEL.
6. CONSTRUCT CHANNEL BLOCK AT STA. 23+25.
7. INSTALL PHASE I TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES AS DETAILED IN THE EROSION CONTROL PLANS. SEE EROSION PREVENTION AND SEDIMENT CONTROL PHASE I - STEP 6 AND STEP 7.
8. COMMENCE PHASE I CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS. SEE EROSION PREVENTION AND SEDIMENT CONTROL PHASE I - STEP 8.
9. CONSTRUCT BANK STABILIZATION STRUCTURES, GRADING AND OTHER PLANNED CHANNEL IMPORVEMENTS FROM STA. 0+00 TO STA. 19+00.
10. INSTALL BUFFER ZONE PLANTINGS AS PER PLANTING PLANS AND DETAILS.
11. COMPLETE PHASE I CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS. SEE EROSION PREVENTION AND SEDIMENT CONTROL PHASE I - STEP 10 AND STEP 11.

**PHASE II:**

1. COMPLETE PHASE II CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS. SEE EROSION PREVENTION AND SEDIMENT CONTROL PHASE II - STEP 2 THROUGH STEP 7.
2. COMMENCE PHASE III CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS. SEE EROSION PREVENTION AND SEDIMENT CONTROL PHASE III - STEP 2 THROUGH STEP 5.
3. REMOVE EXISTING BRIDGE DECK, SOUTH ABUTMENT AND PIER.
4. CONSTRUCT BANK STABILIZATION STRUCTURES, GRADING AND OTHER PLANNED CHANNEL IMPROVEMENTS FROM STA 26+75 TO STA. 30+00.
5. INSTALL BUFFER ZONE PLANTINGS AS PER PLANTING PLANS AND DETAILS.
6. CONSTRUCT WETLAND MITIGATION AREA AND SPILLWAY. SEE BRIDGE REPLACEMENT PLANS.
7. COMPLETE EROSION PREVENTION AND SEDIMENT CONTROL PHASE III - STEP 7 THROUGH STEP 9.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: sequencing.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CONSTRUCTION SEQUENCE**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 109 OF 140

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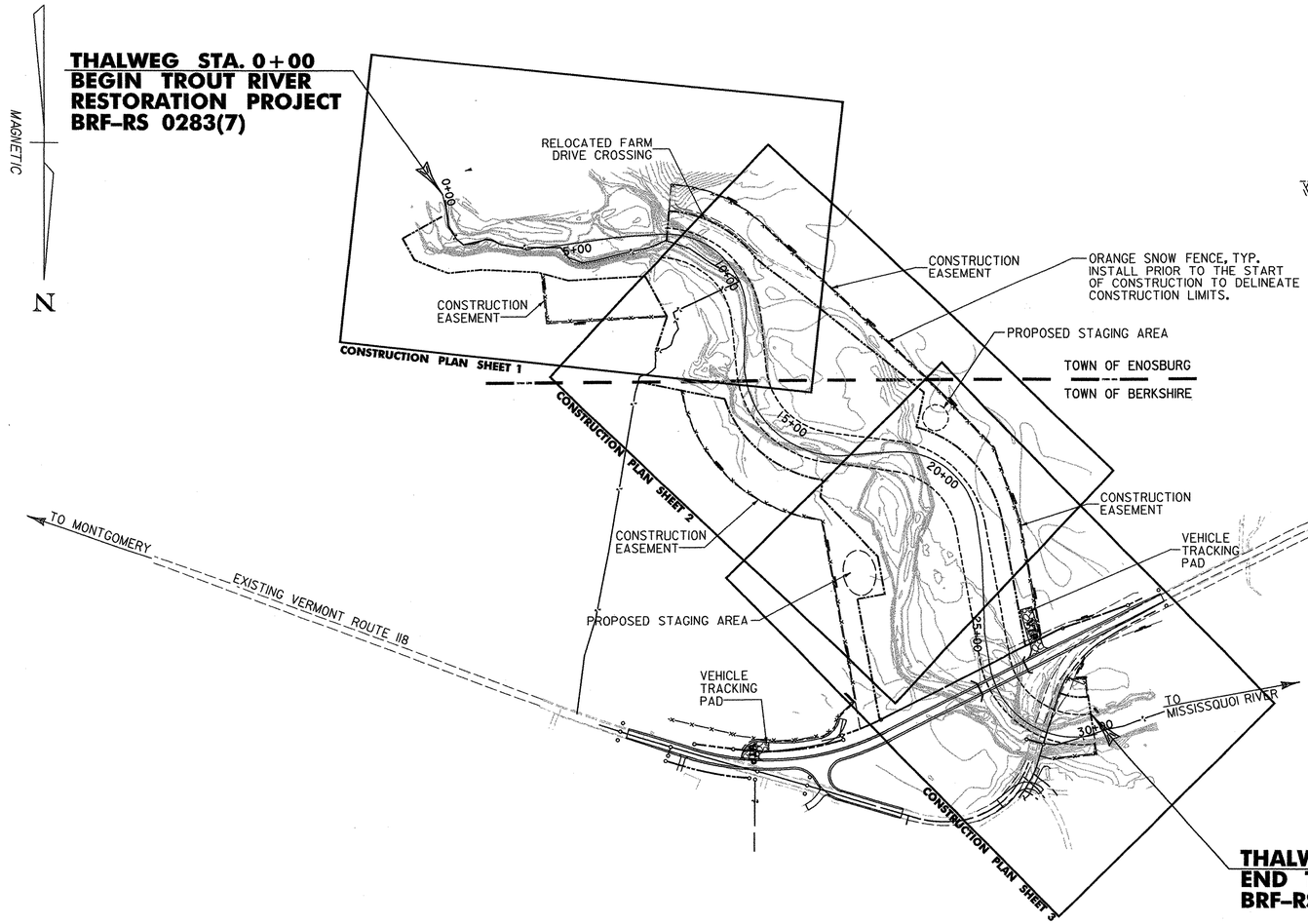
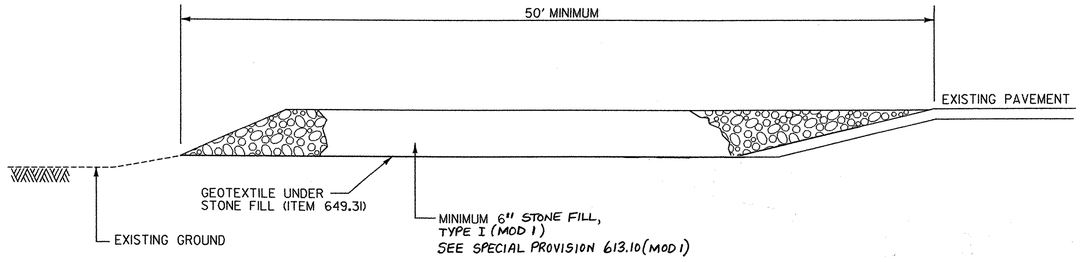


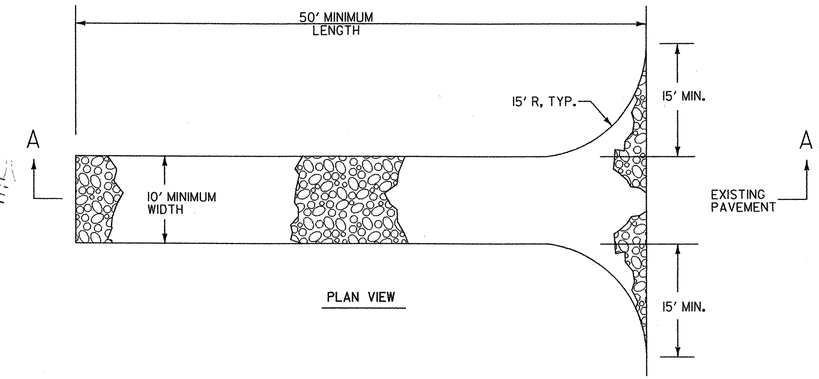

## CONSTRUCTION SITE PLAN

0 100 200 300 400

SCALE IN FEET



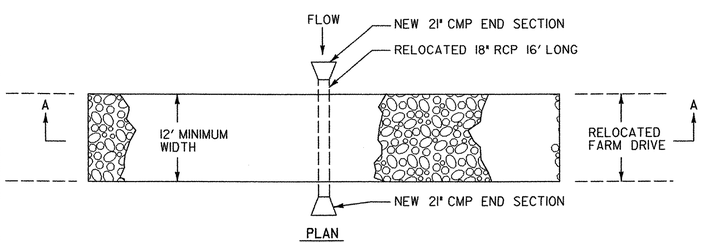

SECTION A-A



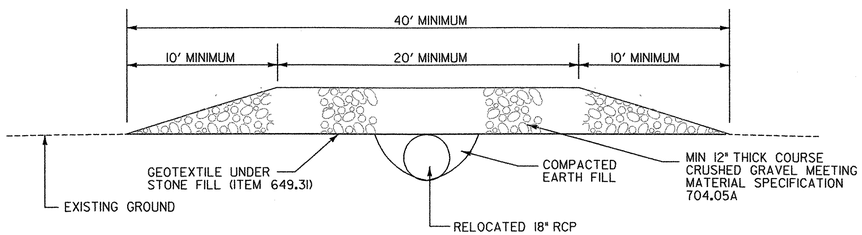

PLAN VIEW

## VEHICLE TRACKING PAD

N.T.S.




PLAN




SECTION A-A

## RELOCATED FARM DRIVE CROSSING

N.T.S.

NOTES:

2. A VEHICLE TRACKING PAD SHALL BE LOCATED AT EVERY POINT WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES A CONSTRUCTION SITE. VEHICLES LEAVING THE SITE MUST TRAVEL OVER THE *ENTIRE* LENGTH OF THE VEHICLE TRACKING PAD
3. TO MINIMIZE EROSION, THE CONTRACTOR SHALL PERFORM VISUAL INSPECTIONS OF EROSION CONTROL DEVICES, BANKS, IN-CHANNEL STRUCTURES, ETC., EVERY SEVEN (7) CALENDAR DAYS AS WELL AS AFTER ANY STORM EVENTS GENERATING STORMWATER RUNOFF FROM THE SITE. DEFICIENCIES SHALL BE REPAIRED AND REQUIRED MAINTENANCE SHALL BE PERFORMED WITHIN 24 HOURS.
4. FOR CONSTRUCTION EASEMENT DESCRIPTIONS, SEE R.O.W. PLANS.
5. CONSTRUCTION EASMENT BOUNDARIES, LIMITS OF STAGING AREAS, AND RIPARIAN BUFFER LIMITS SHALL BE DELINEATED WITH ORANGE SNOW FENCE PRIOR TO THE START OF CONSTRUCTION, AS SHOWN.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: 094CONSTRUCTIONSITE.PTF
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CONSTRUCTION SITE PLAN**

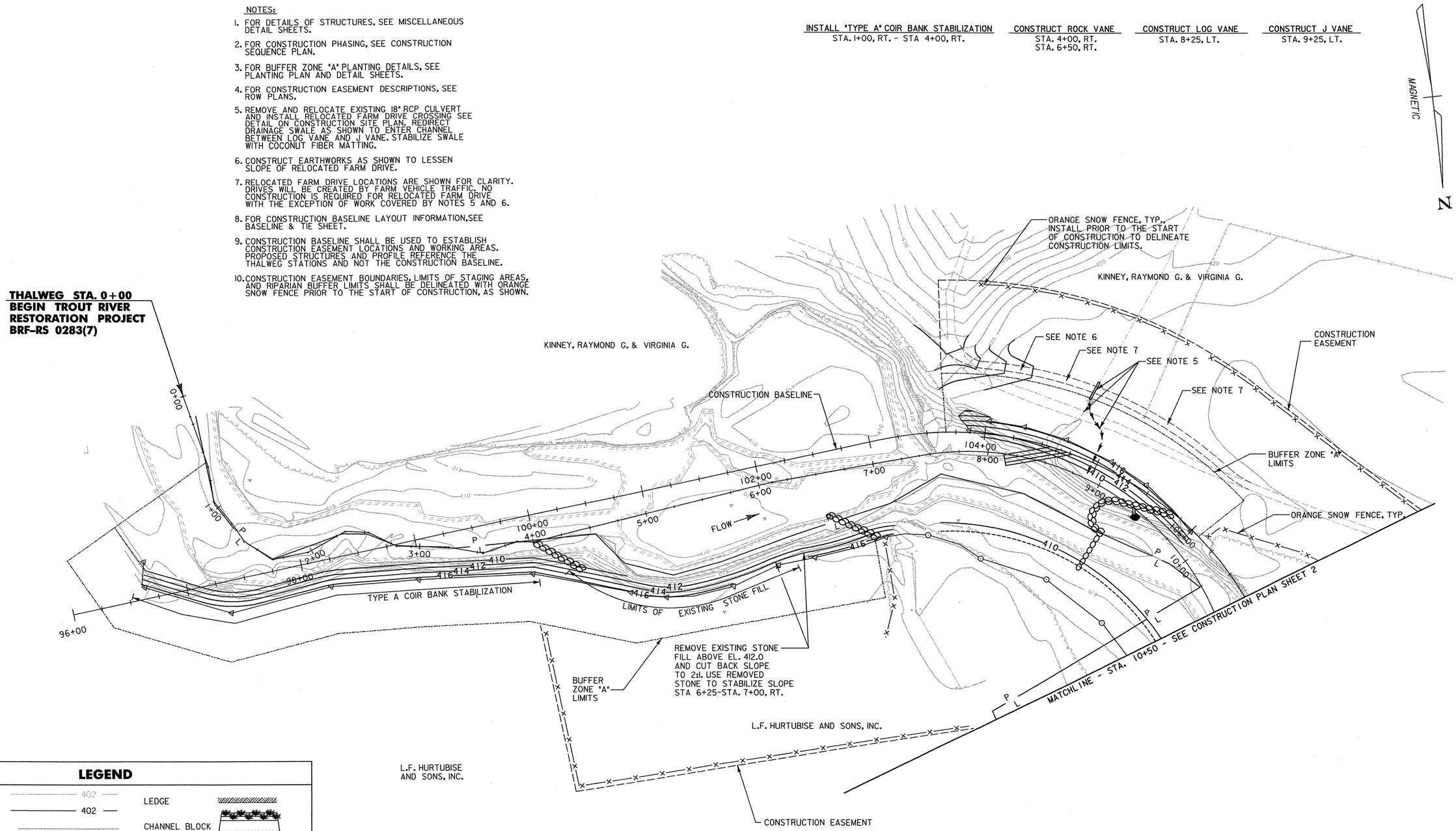
PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 110 OF 140

\\DH\construction\site.dgn 08/26/2003 08:51:49 AM

NOTES:

1. FOR DETAILS OF STRUCTURES, SEE MISCELLANEOUS DETAIL SHEETS.
2. FOR CONSTRUCTION PHASING, SEE CONSTRUCTION SEQUENCE PLAN.
3. FOR BUFFER ZONE "A" PLANTING DETAILS, SEE PLANTING PLAN AND DETAIL SHEETS.
4. FOR CONSTRUCTION EASEMENT DESCRIPTIONS, SEE ROW PLANS.
5. REMOVE AND RELOCATE EXISTING 18" RCP CULVERT AND INSTALL RELOCATED FARM DRIVE CROSSING SEE DETAIL ON CONSTRUCTION SITE PLAN. REDIRECT DRAINAGE SWALE AS SHOWN TO ENTER CHANNEL BETWEEN LOG VANE AND J VANE. STABILIZE SWALE WITH COCONUT FIBER MATTING.
6. CONSTRUCT EARTHWORKS AS SHOWN TO LESSEN SLOPE OF RELOCATED FARM DRIVE.
7. RELOCATED FARM DRIVE LOCATIONS ARE SHOWN FOR CLARITY. DRIVES WILL BE CREATED BY FARM VEHICLE TRAFFIC. NO CONSTRUCTION IS REQUIRED FOR RELOCATED FARM DRIVE WITH THE EXCEPTION OF WORK COVERED BY NOTES 5 AND 6.
8. FOR CONSTRUCTION BASELINE LAYOUT INFORMATION,SEE BASELINE & TIE SHEET.
9. CONSTRUCTION BASELINE SHALL BE USED TO ESTABLISH CONSTRUCTION EASEMENT LOCATIONS AND WORKING AREAS. PROPOSED STRUCTURES AND PROFILE REFERENCE THE THALWEG STATIONS AND NOT THE CONSTRUCTION BASELINE.
10. CONSTRUCTION EASEMENT BOUNDARIES, LIMITS OF STAGING AREAS, AND RIPARIAN BUFFER LIMITS SHALL BE DELINEATED WITH ORANGE SNOW FENCE PRIOR TO THE START OF CONSTRUCTION, AS SHOWN.

| INSTALL "TYPE A" COIR BANK STABILIZATION | CONSTRUCT ROCK VANE | CONSTRUCT LOG VANE | CONSTRUCT J VANE |
|---|---|---|---|
| STA. 1+00, RT. - STA 4+00, RT. | STA. 4+00, RT.<br>STA. 6+50, RT. | STA. 8+25, LT. | STA. 9+25, LT. |




## LEGEND

| | | | |
|---|---|---|---|
| EXISTING CONTOUR | 402 | LEDGE | |
| PROPOSED CONTOUR | 402 | CHANNEL BLOCK | |
| EXISTING THALWEG | | ROOT WAD | |
| DESIGN THALWEG | 12+00 | LOG VANE | |
| DESIGN BANKFULL WIDTH | | J-VANE | |
| EXISTING CHANNEL | | ROCK WEIR | |
| CONSTRUCTED RIFFLE | | | |
| ROCK VANE | | | |
| TREE REVETMENT | | | |
| ORANGE SNOW FENCE | | | |

0 40 80
SCALE

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: plan03.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CONSTRUCTION PLAN SHEET 1**

PLOT DATE: 08/27/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET III OF 140

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**CONSTRUCT TREE REVETMENT**
STA. 13+60, RT. - STA. 14+20, RT.
STA. 14+60, RT. - STA. 15+20, RT.
STA. 19+60, LT. - STA. 20+20, LT.
STA. 20+60, LT. - STA. 21+20, LT.

**CONSTRUCT ROOT WADS WITH PINNING**
STA. 18+60, LT. - STA. 19+00, LT.

**CONSTRUCT ROOT WADS WITH CROSS BRACING**
STA. 12+60, RT. - STA. 13+00, RT.

**CONSTRUCT CHANNEL BLOCK**
STA. 18+50, RT.
TOP ELEV. 409.0

**CONSTRUCT RIFFLE**
STA. 10+90 - STA. 12+10
RIFFLE HEAD ELEV. 407.0
RIFFLE SLOPE 0.5%

STA. 16+90 - STA. 18+10
RIFFLE HEAD ELEV. 405.8
RIFFLE SLOPE 0.5%

**CONSTRUCT J VANE**
STA. 15+25, RT.
STA. 21+25, LT.

**CONSTRUCT LOG VANE**
STA. 19+25, LT.
STA. 20+25, LT.

**CONSTRUCT ROCK VANE**
STA. 13+25, RT.
STA. 14+25, RT.

MAGNETIC
N

TOWN OF ENOSBURG
TOWN OF BERKSHIRE
TOWN LINE

CONSTRUCTION EASEMENT

ORANGE SNOW FENCE, TYP., INSTALL PRIOR TO THE START OF CONSTRUCTION TO DELINEATE CONSTRUCTION LIMITS.

KINNEY, RAYMOND G. & VIRGINIA G.

SEE NOTE 6

BUFFER ZONE "A" LIMITS

CONSTRUCTION BASELINE

MATCHLINE - STA. 10+50 - SEE CONSTRUCTION PLAN SHEET 1

MATCHLINE - STA. 22+50 - SEE CONSTRUCTION PLAN SHEET 3

STATE OF VERMONT
(TO BUFFER ZONE LIMITS)

FLOW

KINNEY, RAYMOND G., VIRGINIA G.

L.F. HURTUBISE AND SONS, INC.

BUFFER ZONE "A" LIMITS

ORANGE SNOW FENCE, TYP.

CONSTRUCTION EASEMENT

0 40 80
SCALE

## LEGEND

| | |
|---|---|
| EXISTING CONTOUR | LEDGE |
| PROPOSED CONTOUR | CHANNEL BLOCK |
| EXISTING THALWEG | |
| DESIGN THALWEG | ROOT WAD |
| DESIGN BANKFULL WIDTH | |
| EXISTING CHANNEL | LOG VANE |
| CONSTRUCTED RIFFLE | J-VANE |
| ROCK VANE | |
| TREE REVETMENT | ROCK WEIR |
| ORANGE SNOW FENCE | |

NOTES:

1. FOR DETAILS OF STRUCTURES, SEE MISCELLANEOUS DETAIL SHEETS.
2. FOR CONSTRUCTION PHASING, SEE CONSTRUCTION SEQUENCE PLAN.
3. FOR CONSTRUCTION BASELINE LAYOUT INFORMATION, SEE BASELINE & TIE SHEET.
4. FOR BUFFER ZONE "A" PLANTING DETAILS, SEE PLANTING PLAN AND DETAIL SHEETS.
5. FOR CONSTRUCTION EASEMENT DESCRIPTIONS, SEE ROW PLANS.
6. STRIP TOPSOIL FROM AREA OF PROPOSED CHANNEL, USE TOPSOIL TO FILL LOW SPOTS IN PASTURE OUTSIDE OF PROPOSED BUFFER ZONE "A" AREA.
7. CONSTRUCTION BASELINE SHALL BE USED TO ESTABLISH CONSTRUCTION EASEMENT LOCATIONS AND WORKING AREAS. PROPOSED STRUCTURES AND PROFILE REFERENCE THE THALWEG STATIONS AND NOT THE CONSTRUCTION BASELINE.
8. CONSTRUCTION EASEMENT BOUNDARIES, LIMITS OF STAGING AREAS, AND RIPARIAN BUFFER LIMITS SHALL BE DELINEATED WITH ORANGE SNOW FENCE PRIOR TO THE START OF CONSTRUCTION, AS SHOWN.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: plan02.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CONSTRUCTION PLAN SHEET 2**

PLOT DATE: 08/27/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 112 OF 140

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CONSTRUCT ROCK VANE
STA. 27+25, RT.

CONSTRUCT RIFFLE
STA. 22+90 - STA. 24+10
RIFFLE HEAD ELEV. 404.6
RIFFLE SLOPE 0.5%

CONSTRUCT ROCK WEIR
STA. 25+00
STA. 28+00

CONSTRUCT CHANNEL BLOCK
STA. 23+25, RT.
TOP ELEV. 408.0

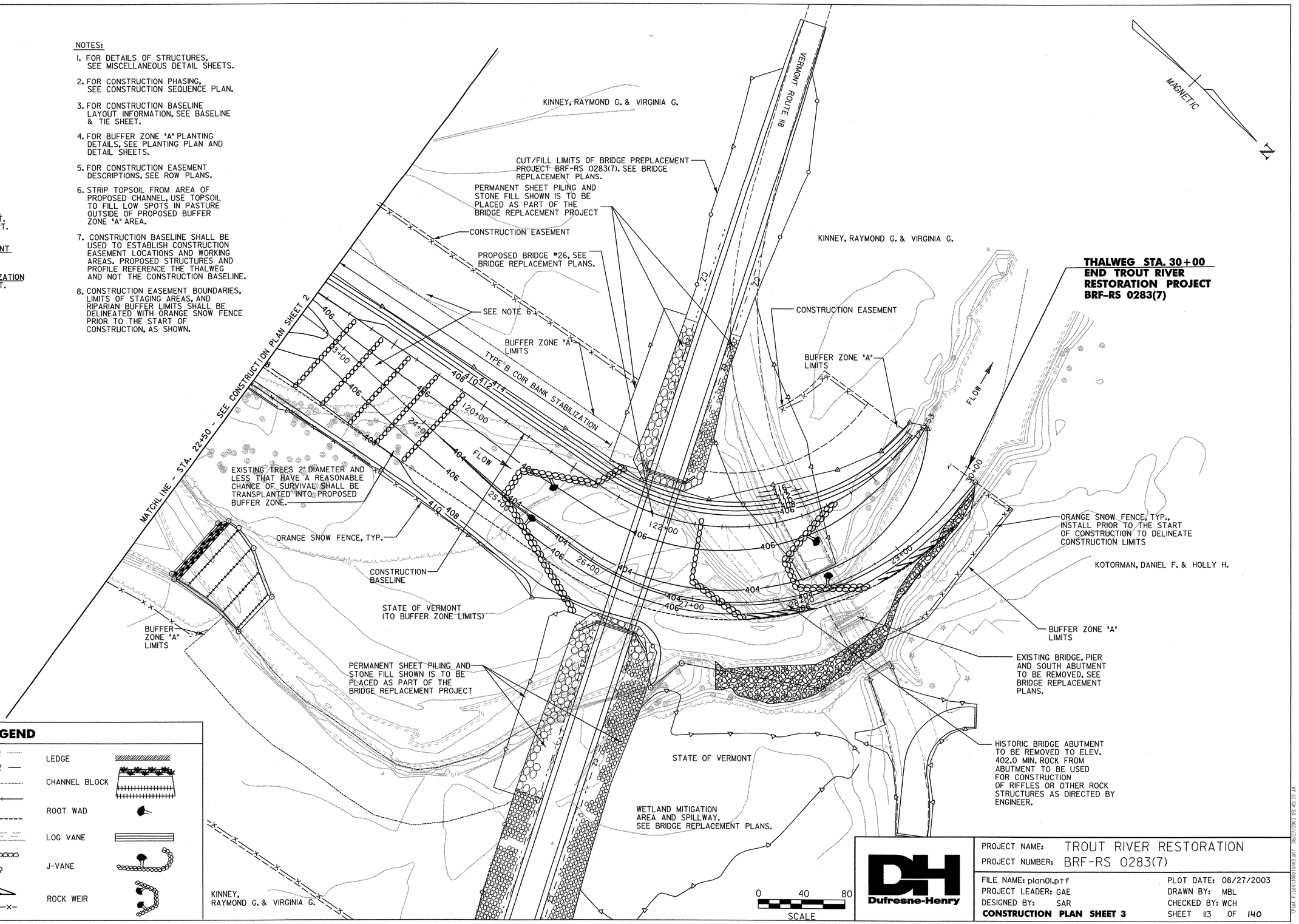
CONSTRUCT TREE REVETMENT
STA. 27+50, RT. - STA. 28+10, RT.
STA. 28+70, RT. - STA. 29+50, RT.

REMOVE HISTORIC BRIDGE ABUTMENT
STA. 28+00

INSTALL "TYPE B" COIR BANK STABILIZATION
STA. 22+50, LT. - STA. 25+50, LT.

NOTES:

1. FOR DETAILS OF STRUCTURES, SEE MISCELLANEOUS DETAIL SHEETS.
2. FOR CONSTRUCTION PHASING, SEE CONSTRUCTION SEQUENCE PLAN.
3. FOR CONSTRUCTION BASELINE LAYOUT INFORMATION, SEE BASELINE & TIE SHEET.
4. FOR BUFFER ZONE 'A' PLANTING DETAILS, SEE PLANTING PLAN AND DETAIL SHEETS.
5. FOR CONSTRUCTION EASEMENT DESCRIPTIONS, SEE ROW PLANS.
6. STRIP TOPSOIL FROM AREA OF PROPOSED CHANNEL, USE TOPSOIL TO FILL LOW SPOTS IN PASTURE OUTSIDE OF PROPOSED BUFFER ZONE 'A' AREA.
7. CONSTRUCTION BASELINE SHALL BE USED TO ESTABLISH CONSTRUCTION EASEMENT LOCATIONS AND WORKING AREAS. PROPOSED STRUCTURES AND PROFILE REFERENCE THE THALWEG AND NOT THE CONSTRUCTION BASELINE.
8. CONSTRUCTION EASEMENT BOUNDARIES, LIMITS OF STAGING AREAS, AND RIPARIAN BUFFER LIMITS SHALL BE DELINEATED WITH ORANGE SNOW FENCE PRIOR TO THE START OF CONSTRUCTION, AS SHOWN.




## LEGEND

| | | | |
|---|---|---|---|
| EXISTING CONTOUR | 402 | LEDGE | |
| PROPOSED CONTOUR | 402 | CHANNEL BLOCK | |
| EXISTING THALWEG | | ROOT WAD | |
| DESIGN THALWEG | 12+00 | LOG VANE | |
| DESIGN BANKFULL WIDTH | | J-VANE | |
| EXISTING CHANNEL | | ROCK WEIR | |
| CONSTRUCTED RIFFLE | | | |
| ROCK VANE | | | |
| TREE REVETMENT | | | |
| ORANGE SNOW FENCE | x—x—x—x | | |

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: plan01.p+f
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CONSTRUCTION PLAN SHEET 3**

PLOT DATE: 08/27/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 113 OF 140

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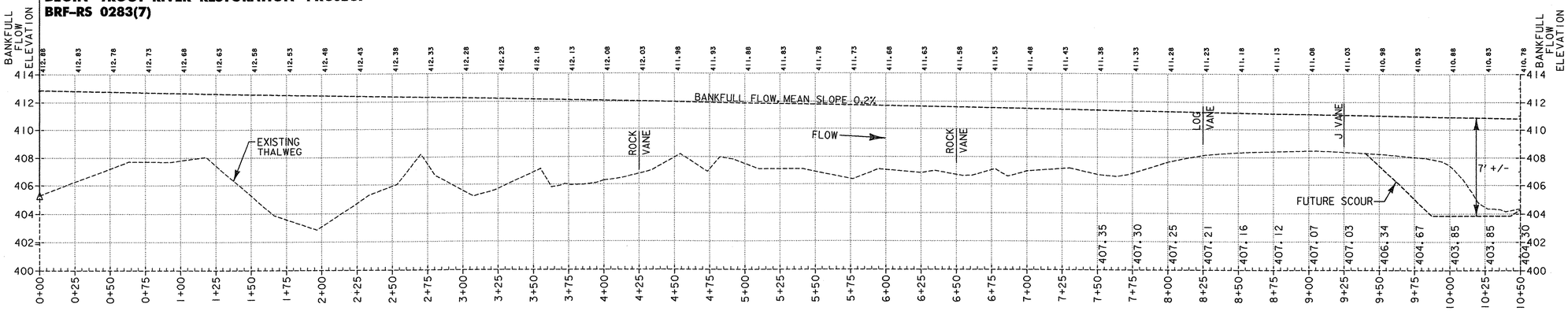
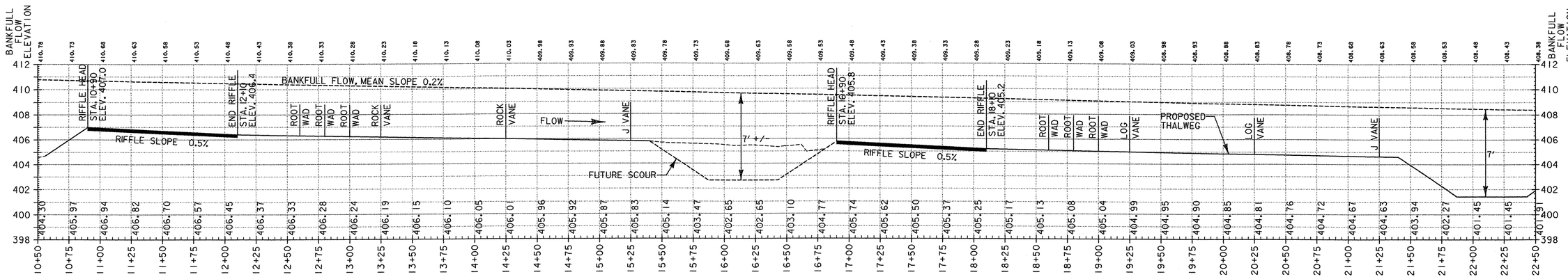
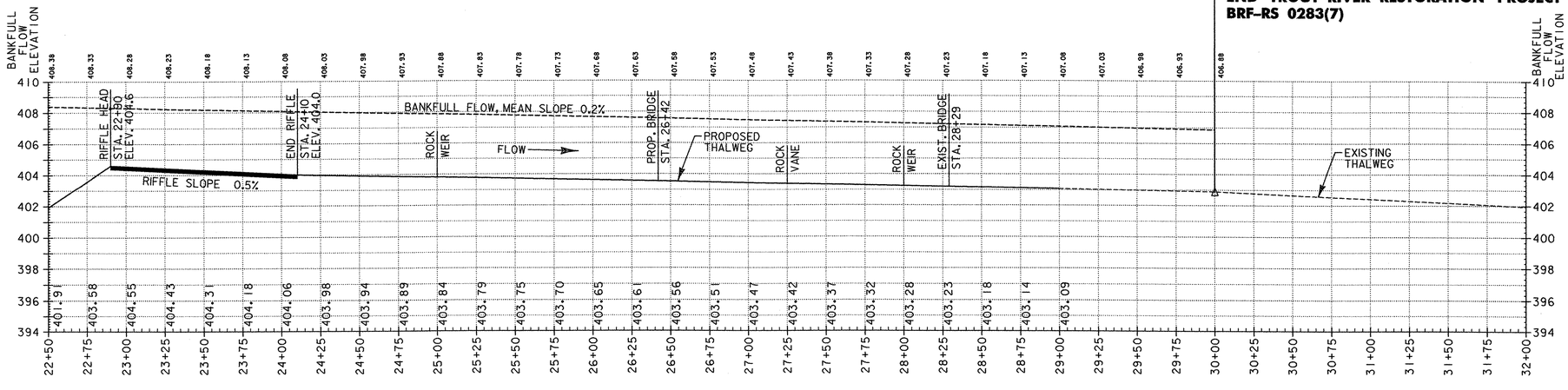
**THALWEG STA. 0+00**
**BEGIN TROUT RIVER RESTORATION PROJECT**
**BRF-RS 0283(7)**




**THALWEG STA. 30+00**
**END TROUT RIVER RESTORATION PROJECT**
**BRF-RS 0283(7)**




NOTES:
1. EXISTING CHANNEL GRADES FROM STA. 28+50 TO STA. 32+00 WERE NOT OBTAINED DUE TO ICE COVER AT THE TIME OF SURVEY. GRADES AT STA. 32+00 (REFERENCE CROSS SECTION 1), ARE KNOWN AND GRADES FROM STA. 28+50 TO STA. 32+00 ARE ESTIMATED.

VERTICAL 0 1 2 4 6
HORIZONTAL 0 20 40 60
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: profile01.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
**PROFILE SHEET**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 114 OF 140

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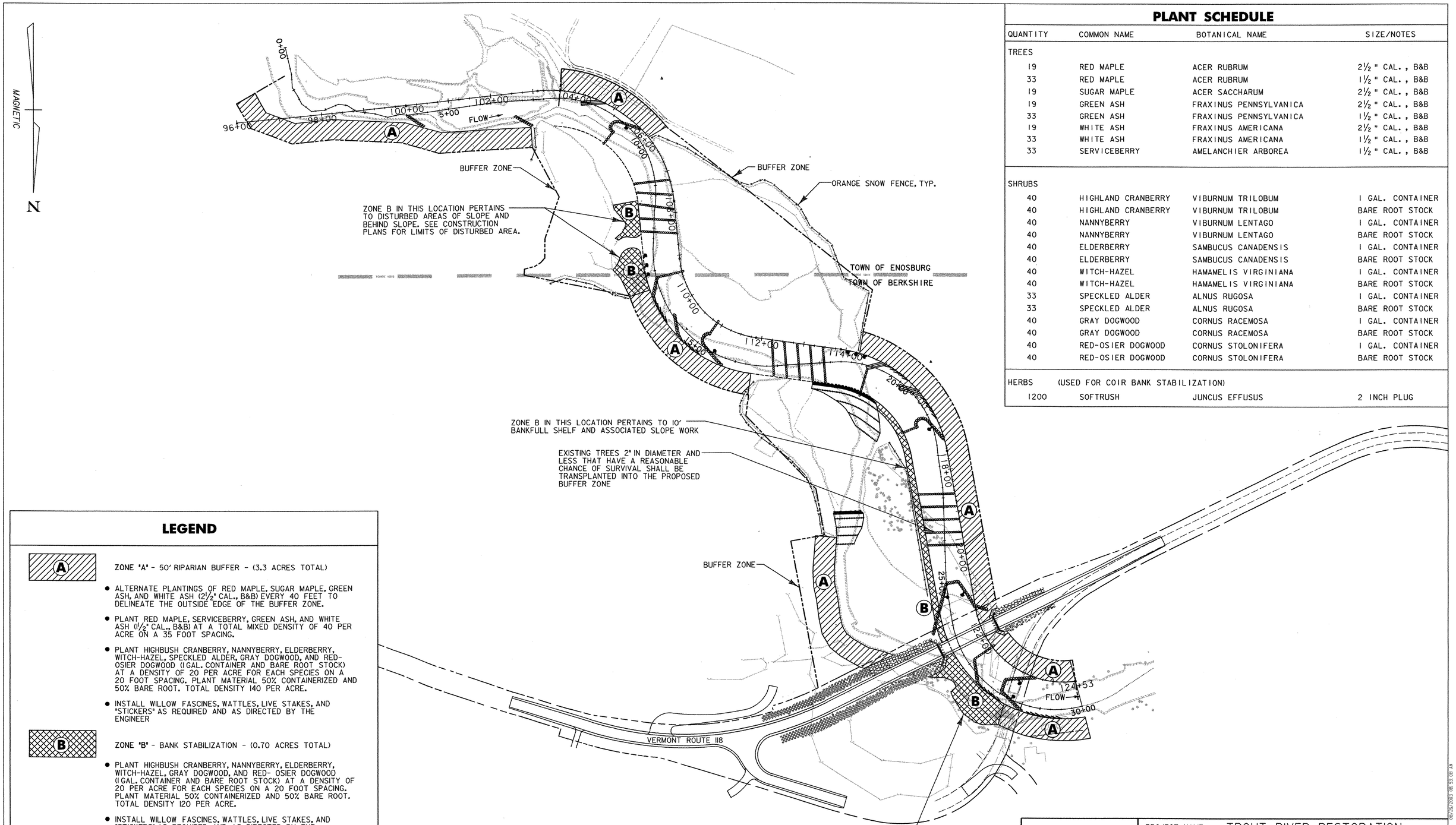


## PLANT SCHEDULE

| QUANTITY | COMMON NAME | BOTANICAL NAME | SIZE/NOTES |
|---|---|---|---|
| TREES | | | |
| 19 | RED MAPLE | ACER RUBRUM | 2½" CAL., B&B |
| 33 | RED MAPLE | ACER RUBRUM | 1½" CAL., B&B |
| 19 | SUGAR MAPLE | ACER SACCHARUM | 2½" CAL., B&B |
| 19 | GREEN ASH | FRAXINUS PENNSYLVANICA | 2½" CAL., B&B |
| 33 | GREEN ASH | FRAXINUS PENNSYLVANICA | 1½" CAL., B&B |
| 19 | WHITE ASH | FRAXINUS AMERICANA | 2½" CAL., B&B |
| 33 | WHITE ASH | FRAXINUS AMERICANA | 1½" CAL., B&B |
| 33 | SERVICEBERRY | AMELANCHIER ARBOREA | 1½" CAL., B&B |
| SHRUBS | | | |
| 40 | HIGHLAND CRANBERRY | VIBURNUM TRILOBUM | 1 GAL. CONTAINER |
| 40 | HIGHLAND CRANBERRY | VIBURNUM TRILOBUM | BARE ROOT STOCK |
| 40 | NANNYBERRY | VIBURNUM LENTAGO | 1 GAL. CONTAINER |
| 40 | NANNYBERRY | VIBURNUM LENTAGO | BARE ROOT STOCK |
| 40 | ELDERBERRY | SAMBUCUS CANADENSIS | 1 GAL. CONTAINER |
| 40 | ELDERBERRY | SAMBUCUS CANADENSIS | BARE ROOT STOCK |
| 40 | WITCH-HAZEL | HAMAMELIS VIRGINIANA | 1 GAL. CONTAINER |
| 40 | WITCH-HAZEL | HAMAMELIS VIRGINIANA | BARE ROOT STOCK |
| 33 | SPECKLED ALDER | ALNUS RUGOSA | 1 GAL. CONTAINER |
| 33 | SPECKLED ALDER | ALNUS RUGOSA | BARE ROOT STOCK |
| 40 | GRAY DOGWOOD | CORNUS RACEMOSA | 1 GAL. CONTAINER |
| 40 | GRAY DOGWOOD | CORNUS RACEMOSA | BARE ROOT STOCK |
| 40 | RED-OSIER DOGWOOD | CORNUS STOLONIFERA | 1 GAL. CONTAINER |
| 40 | RED-OSIER DOGWOOD | CORNUS STOLONIFERA | BARE ROOT STOCK |
| HERBS | (USED FOR COIR BANK STABILIZATION) | | |
| 1200 | SOFTRUSH | JUNCUS EFFUSUS | 2 INCH PLUG |

## LEGEND

**ZONE 'A'** - 50' RIPARIAN BUFFER - (3.3 ACRES TOTAL)

- ALTERNATE PLANTINGS OF RED MAPLE, SUGAR MAPLE, GREEN ASH, AND WHITE ASH (2½" CAL., B&B) EVERY 40 FEET TO DELINEATE THE OUTSIDE EDGE OF THE BUFFER ZONE.
- PLANT RED MAPLE, SERVICEBERRY, GREEN ASH, AND WHITE ASH (1½" CAL., B&B) AT A TOTAL MIXED DENSITY OF 40 PER ACRE ON A 35 FOOT SPACING.
- PLANT HIGHBUSH CRANBERRY, NANNYBERRY, ELDERBERRY, WITCH-HAZEL, SPECKLED ALDER, GRAY DOGWOOD, AND RED-OSIER DOGWOOD (1 GAL. CONTAINER AND BARE ROOT STOCK) AT A DENSITY OF 20 PER ACRE FOR EACH SPECIES ON A 20 FOOT SPACING. PLANT MATERIAL 50% CONTAINERIZED AND 50% BARE ROOT. TOTAL DENSITY 140 PER ACRE.
- INSTALL WILLOW FASCINES, WATTLES, LIVE STAKES, AND "STICKERS" AS REQUIRED AND AS DIRECTED BY THE ENGINEER

**ZONE 'B'** - BANK STABILIZATION - (0.70 ACRES TOTAL)

- PLANT HIGHBUSH CRANBERRY, NANNYBERRY, ELDERBERRY, WITCH-HAZEL, GRAY DOGWOOD, AND RED- OSIER DOGWOOD (1 GAL. CONTAINER AND BARE ROOT STOCK) AT A DENSITY OF 20 PER ACRE FOR EACH SPECIES ON A 20 FOOT SPACING. PLANT MATERIAL 50% CONTAINERIZED AND 50% BARE ROOT. TOTAL DENSITY 120 PER ACRE.
- INSTALL WILLOW FASCINES, WATTLES, LIVE STAKES, AND "STICKERS" AS REQUIRED AND AS DIRECTED BY THE ENGINEER.

ORANGE SNOW FENCE

NOTES:

1. AREAS OF THE BUFFER ZONE THAT ARE NOT SHOWN AS BEING PLANTED ARE ALREADY VEGETATED.
2. EXISTING RIPARIAN VEGETATED BUFFER ZONES ARE TO BE DELINEATED WITH ORANGE SNOW FENCE AS SHOWN, PRIOR TO THE START OF CONSTRUCTION.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: planting01.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
**PLANTING PLAN SHEET**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
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## GENERAL PLANTING NOTES:

1. APPLICABLE STANDARDS: AMERICAN NATIONAL STANDARDS FOR TREE CARE OPERATIONS, ANSI A300. AMERICAN STANDARD FOR NURSERY STOCK, ANDSO Z60.1. HORTUS THIRD, THE STAFF OF THE L.H. BAILEY HORTORIUM. ALL STANDARDS SHALL INCLUDE THE LATEST ADDITIONS AND AMENDMENTS AS OF THE DATE OF ADVERTISEMENT FOR BIDS.

2. WARRANTY TREES AND SHRUBS AND ALL OTHER PLANT MATERIAL FOR A PERIOD OF TWO YEARS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL PLANTS IN A LIVE, HEALTHY AND PRESENTABLE GROWING CONDITION UNTIL ACCEPTANCE OF THE COMPLETED CONTRACT. REMOVE AND REPLACE TREES, SHRUBS, OR OTHER PLANTS FOUND TO BE DEAD OR IN UNHEALTHY CONDITION DURING WARRANTY PERIOD.

3. PLANTING SOIL MIXTURE:
   1/3 TOPSOIL
   1/3 PEAT MOSS
   1/3 COARSE SAND
   PLANTING SOIL pH 5.5-6.5
   FERTILIZER AS SPECIFIED
   NO FERTILIZER OR LIMESTONE SHALL BE UTILIZED WITHIN THE BUFFER ZONES OR WITHIN 100 FEET OF THE CHANNEL.

4. FERTILIZER: SLOW RELEASE TYPE, OR SUBSTITUTE APPROVED BY THE ENGINEER, APPLIED AS FOLLOWS:
   TREES AND SHRUBS
   MARCH-MAY 10-10-10
   MAY-OCTOBER 6-10-10
   OCTOBER-MARCH 4-12-12
   RATE OF APPLICATION: 1lb./INCH IN CALIPER
   NO FERTILIZER OR LIMESTONE SHALL BE UTILIZED WITHIN THE BUFFER ZONES OR WITHIN 100 FEET OF THE CHANNEL.

5. EXCAVATE SOIL TO 4' WIDER THAN ROOT BALL DIAMETER FOR TREES AND 2' WIDER FOR SHRUBS. SET BALLED AND BURLAPPED (B&B) STOCK ON LAYER OF COMPACTED SOIL MIXTURE, STAND PLUMB AND IN CENTER OF PIT OR TRENCH WITH TOP OF BALL AT THE SAME ELEVATION AS ADJACENT FINISHED LANDSCAPE GRADES. REMOVE WIRE BASKET AND ALL TWINE, REMOVE BURLAP FROM UPPER HALF OF BALLS; RETAIN ON BOTTOMS. SET CONTAINER GROWN SOCK AS SPECIFIED FOR B&B MATERIAL, EXCEPT CUT CANS ON TWO SIDES WITH AN APPROVED CAN CUTTER.

6. DISH TOP OF BACKFILL TO ALLOW FOR MULCHING. MULCH PITS WITH NOT LESS THAN 3" OF ORGANIC MULCH.

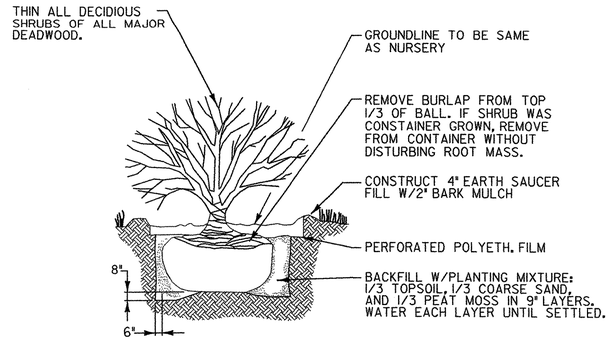
7. WRAP TREE TRUNKS PROMPTLY AFTER PLANTING.

8. GUY AND STAKE TREES IMMEDIATELY AFTER PLANTING, AND REMOVE AFTER ONE GROWING SEASON OR RESTAKE, IF NECESSARY, AS DETERMINED BY THE ENGINEER.

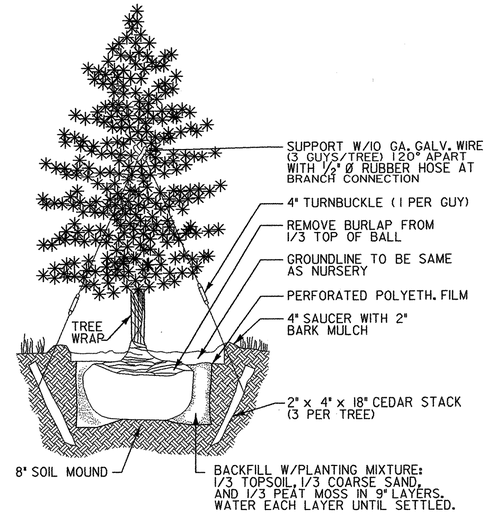
9. ALL PLANTS SHALL BE CAREFULLY AND THOROUGHLY WATERED DURING PLANTING AND AS OFTEN AS NECESSARY THEREAFTER TO PROVIDE THE BEST GROWING CONDITIONS UNTIL ACCEPTANCE OF THE WORK.

10. BEGIN MAINTENANCE IMMEDIATELY AFTER PLANTING. MAINTAIN TREES, SHRUBS, AND OTHER PLANTS BY PRUNING, CULTIVATING, AND WEEDING AS REQUIRED FOR HEALTHY GROWTH. RESTORE PLANTING SAUCERS. TIGHTEN AND REPAIR STAKE AND GUY SUPPORTS AND REST TREES AND SHRUBS TO PROPER GRADES OR VERTICAL POSITIONS AS REQUIRED. RESTORE OR REPLACE DAMAGED WRAPPINGS. SPRAY AS REQUIRED TO KEEP TREES AND SHRUBS FREE OF INSECTS AND DISEASE, AT THE EXPENSE OF THE CONTRACTOR.

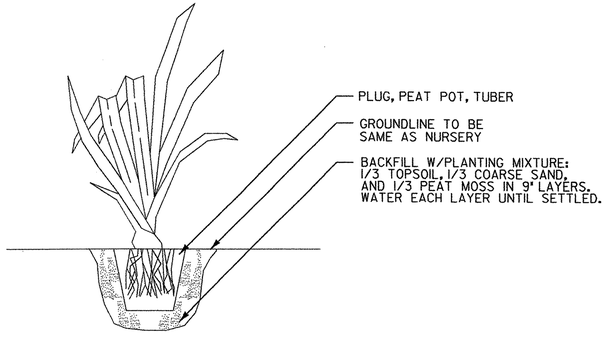
11. MAINTAIN LAWNS BY WATERING, FERTILIZING, WEEDING, MOWING (2" HEIGHT), TRIMMING, AND OTHER OPERATIONS SUCH AS ROLLING, REGRADING, AND REPLANTING AS REQUIRED TO ESTABLISH A SMOOTH, ACCEPTABLE LAWN, FREE OF ERODED OR BARE AREAS AT THE EXPENSE OFTHE CONTRACTOR. NO FERTILIZER OR LIMESTONE SHALL BE UTILIZED WITHIN THE BUFFER ZONES OR WITHIN 100 FEET OF THE CHANNEL.




**SHRUB PLANTING**
N.T.S.




**CONIFEROUS TREE PLANTING**
N.T.S.




**HERBACEOUS PLANTING - PLUGS**
N.T.S.




**DECIDUOUS TREE PLANTING**
N.T.S.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: zo2837frm.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**PLANTING DETAIL SHEET**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 116 OF 140

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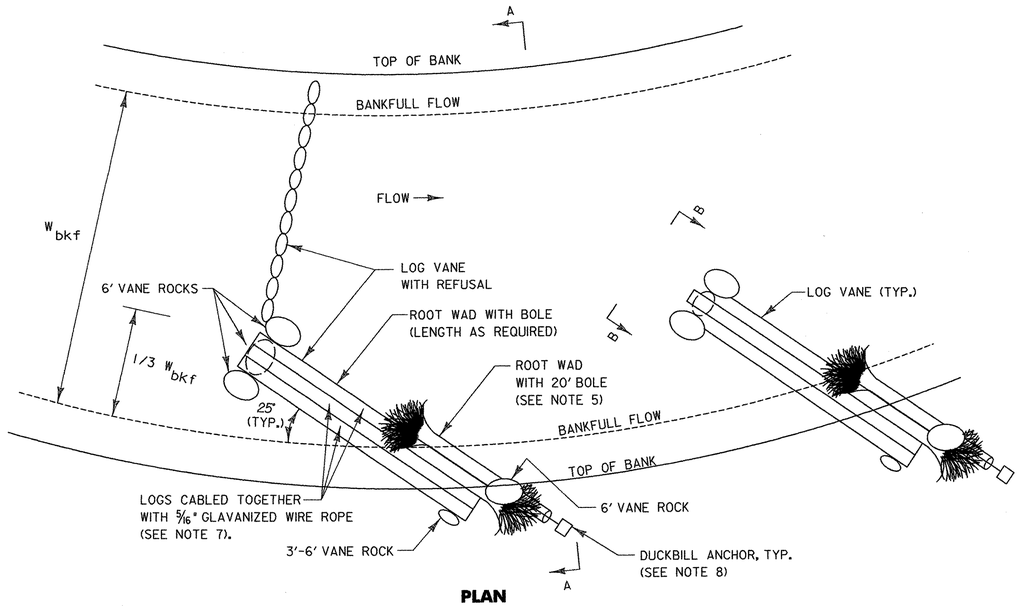


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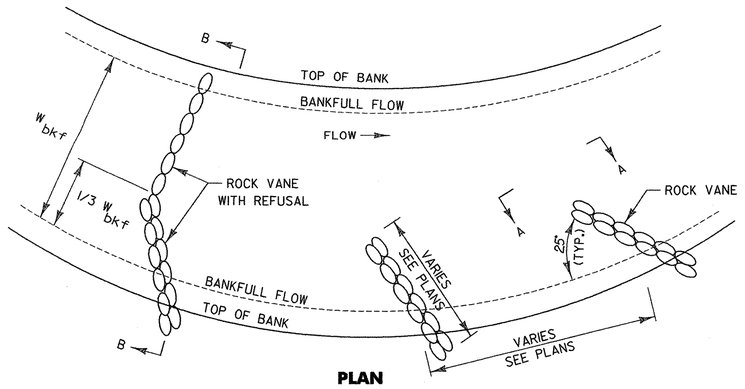


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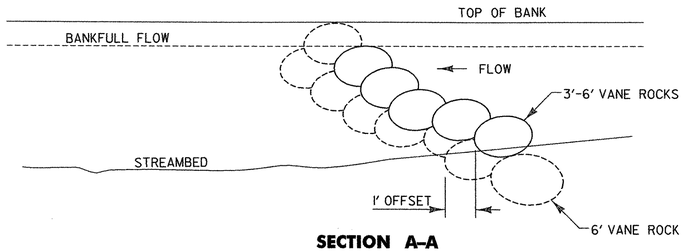
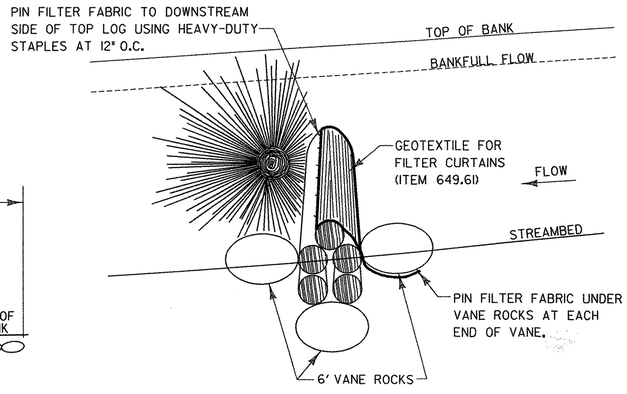
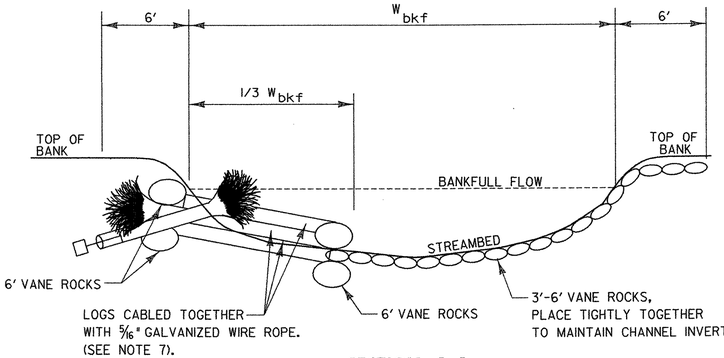



**SECTION A–A**




**SECTION B–B**

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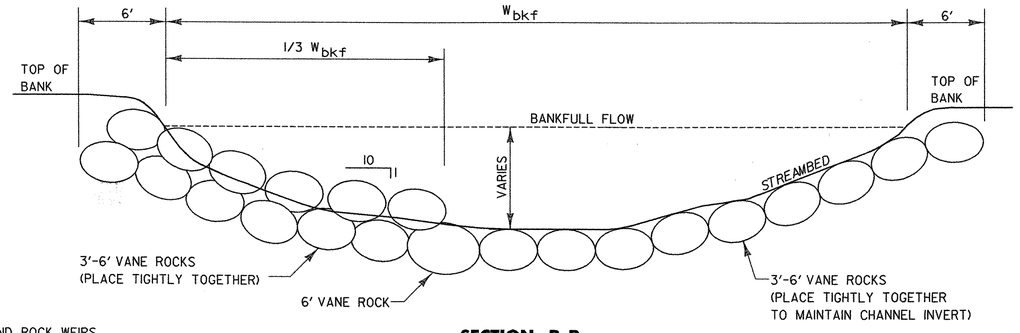


**SECTION B–B**

| APPROXIMATE QUANTITIES | |
|---|---|
| **LOG VANE** | |
| STONE FILL, TYPE IV (MOD.) | 27 CY |
| 12" DIAMETER LOGS | 400 LF |
| ROOT WAD WITH BOLE | 2 EA |
| GEOTEXTILE FOR FILTER CURTAIN | 45 SY |
| 5/16" GALVANIZED WIRE ROPE | 40 LF |
| UNCLASSIFIED CHANNEL EXCAVATION | 34 CY |
| DUCKBILL ANCHOR | 1 EA |
| **LOG VANE REFUSAL** | |
| STONE FILL, TYPE IV (MOD.) | 58 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 58 CY |

## LOG VANE
N.T.S.

NOTES:

1. FOR BANKFULL WIDTH AND OTHER DESIGN CRITERIA, SEE TITLE SHEET.
2. FOR DESIGN BANKFULL ELEVATIONS, SEE PROFILE SHEETS.
3. FOR LOCATIONS OF STRUCTURES, SEE PLAN SHEETS.
4. VANE ROCKS AND WEIR ROCKS SHALL BE CLASSIFIED AS STONE FILL, TYPE IV (MOD.), AND SHALL MEET THE FOLLOWING SIZE REQUIREMENTS:
   - NO DIMENSION CAN BE < 3 FEET
   - AT LEAST 2 DIMENSIONS MUST BE > 4 FEET
   - AT LEAST 1 DIMENSION MUST BE > 5 FEET
5. ROOT WADS SHALL HAVE A MINIMUM FAN DIAMETER OF 6'.
6. CHINK BEHIND ROCK VANES AND ROCK WEIRS WITH TYPE I STONE TO INHIBIT PIPING OF SEDIMENT THROUGH THE STRUCTURES. USE 6-8 CY TYPE I STONE PER STRUCTURE. (TYP.)
7. LOGS ARE TO BE MIN. 12" DIAMETER HEMLOCK, OR OTHER MATERIAL AS APPROVED BY THE ENGINEER. BOLES SHALL BE AS STRAIGHT AS POSSIBLE AND ALL SIDE BRANCHES SHALL BE CUT TO A LENGTH OF 1" OR LESS. LOGS SHALL BE CABLED TOGETHER IN AT LEAST TWO LOCATIONS WITH 5/16" 7 X 19 GALVANIZED WIRE ROPE, HAVING A MIN. BREAKING STRENGTH OF 9800 LBS.
8. DUCKBILL ANCHORS SHALL BE DUCKBILL EARTH ANCHOR SYSTEMS MODEL 138 OR APPROVED EQUAL. ANCHORS SHALL HAVE A MINIMUM OF 5000 LBS OF ANCHOR HOLDING POWER IN NORMAL SOIL. ANCHORS SHALL BE ATTACHED TO TREES WITH 5/16" 7 X 19 GALVANIZED WIRE ROPE HAVING A MIN. BREAKING STRENGTH OF 9800 LBS.

| APPROXIMATE QUANTITIES | |
|---|---|
| **ROCK VANE** | |
| STONE FILL, TYPE IV (MOD.) | 148 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 74 CY |
| STONE FILL, TYPE I | 7 CY |
| **ROCK VANE REFUSAL** | |
| STONE FILL, TYPE IV (MOD.) | 58 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 58 CY |

## ROCK VANE
N.T.S.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: zo2837frm.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**MISC. DETAIL SHEET 1**

PLOT DATE: 06/06/2003
DRAWN BY: MBL
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SHEET 117 OF 140

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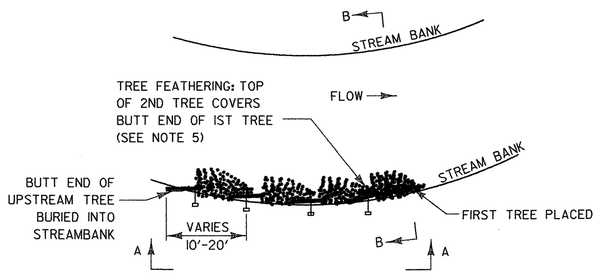


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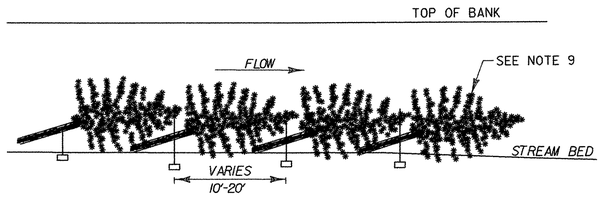
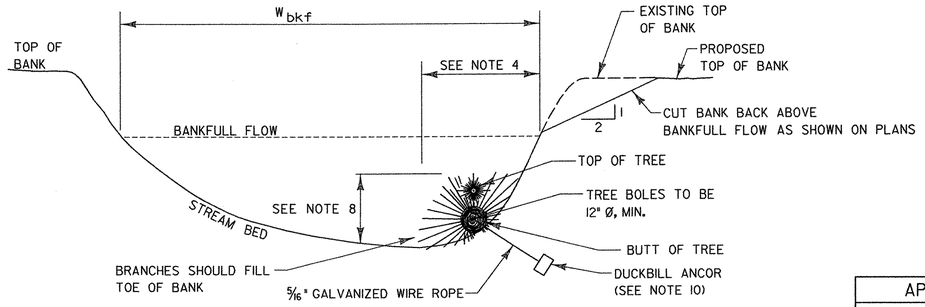


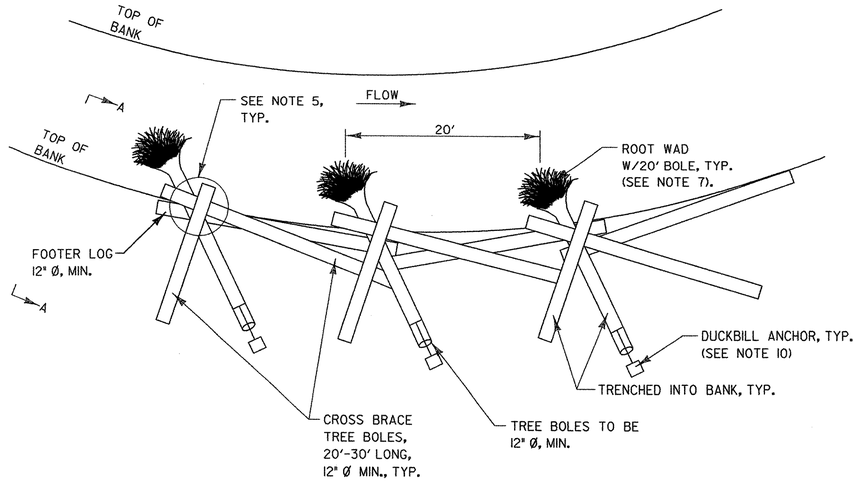

**SECTION A-A**



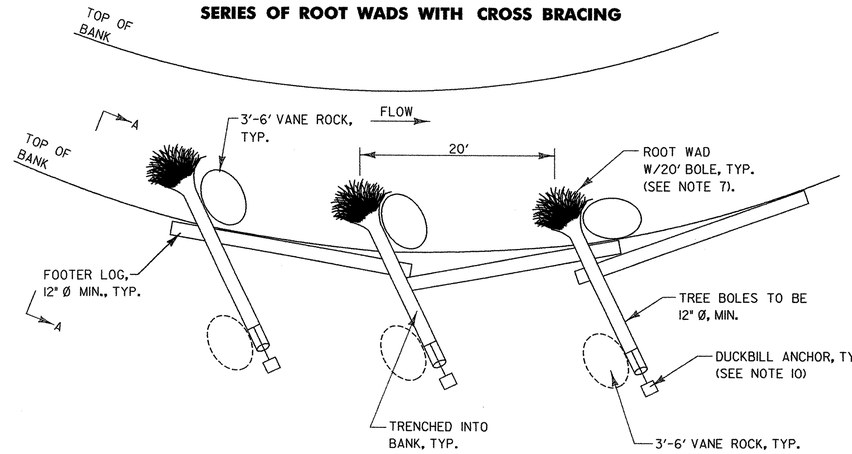

**SECTION B-B**

## TREE REVETMENT
N.T.S.

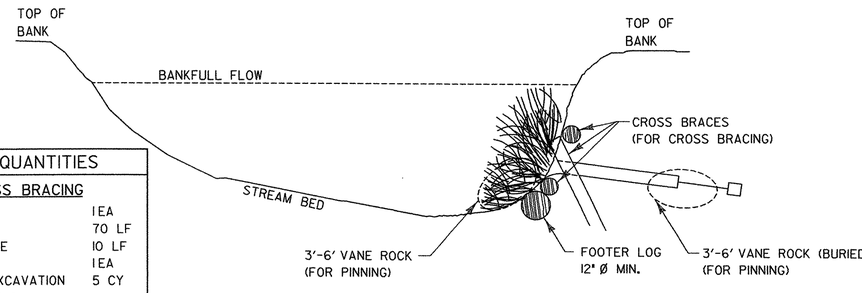
| APPROXIMATE QUANTITIES | |
|---|---|
| TREE REVETMENT | |
| 12" DIAMETER TREE (10'-20' LONG) | 4 EA |
| 5/16" GALVANIZED WIRE ROPE | 40 LF |
| DUCKBILL ANCHOR | 4 EA |
| UNCLASSIFIED CHANNEL EXCAVATION | 10 CY |




**SERIES OF ROOT WADS WITH CROSS BRACING**




**SERIES OF ROOT WADS WITH PINNING**




**SECTION A-A**

## ROOT WAD
N.T.S.

| APPROXIMATE QUANTITIES | |
|---|---|
| ROOT WAD WITH CROSS BRACING | |
| ROOT WAD WITH BOLE | 1 EA |
| 12" DIAMETER LOGS | 70 LF |
| 5/16" GALVANIZED WIRE ROPE | 10 LF |
| DUCKBILL ANCHOR | 1 EA |
| UNCLASSIFIED CHANNEL EXCAVATION | 5 CY |
| ROOT WAD WITH PINNING | |
| ROOT WAD WITH BOLE | 1 EA |
| 12" DIAMETER LOGS | 20 LF |
| STONE FILL, TYPE IV (MOD.) | 7 CY |
| 5/16" GALVANIZED WIRE ROPE | 10 LF |
| DUCKBILL ANCHOR | 1 EA |
| UNCLASSIFIED CHANNEL EXCAVATION | 5 CY |

NOTES:

1. FOR BANKFULL WIDTH AND OTHER DESIGN CRITERIA, SEE TITLE SHEET.
2. FOR DESIGN BANKFULL ELEVATIONS, SEE PROFILE SHEETS.
3. FOR LOCATIONS OF STRUCTURES, SEE PLAN SHEETS.
4. TREE REVETMENT SHOULD NOT EXCEED 15% OF TOTAL BANKFULL WIDTH.
5. THE ENDS OF ALL TREE BOLES ARE CABLED TOGETHER USING 5/16" 7X19 GALVANIZED WIRE ROPE HAVING A MIN. BREAKING STRENGTH OF 9800 LBS.
6. VANE ROCKS AND WEIR ROCKS SHALL BE CLASSIFIED AS STONE FILL, TYPE IV (MOD.), AND SHALL MEET THE FOLLOWING SIZE REQUIREMENTS:
   - NO DIMENSION CAN BE < 3 FEET
   - AT LEAST 2 DIMENSIONS MUST BE > 4 FEET
   - AT LEAST 1 DIMENSION MUST BE > 5 FEET
7. ROOT WADS SHALL HAVE A MINIMUM FAN DIAMETER OF 6'.
8. TREE REVETMENTS USED FOR TOE OF SLOPE PROTECTION SHALL EXTEND UP TO 1/2 TO 2/3 BANKFULL DEPTH.
9. TREES FOR TREE REVETMENTS SHALL BE HEMLOCK OR OTHER MATERIAL AS APPROVED BY THE ENGINEER.
10. DUCKBILL ANCHORS SHALL BE DUCKBILL EARTH ANCHOR SYSTEMS MODEL 138 OR APPROVED EQUAL. ANCHORS SHALL HAVE A MINIMUM OF 5000 LBS OF ANCHOR HOLDING POWER IN NORMAL SOIL. ANCHORS SHALL BE ATTACHED TO TREES WITH 5/16" 7 X 19 GALVANIZED WIRE ROPE HAVING A MIN. BREAKING STRENGTH OF 9800 LBS.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: zo2837frm.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**MISC. DETAIL SHEET 2**

PLOT DATE: 06/06/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 118 OF 140

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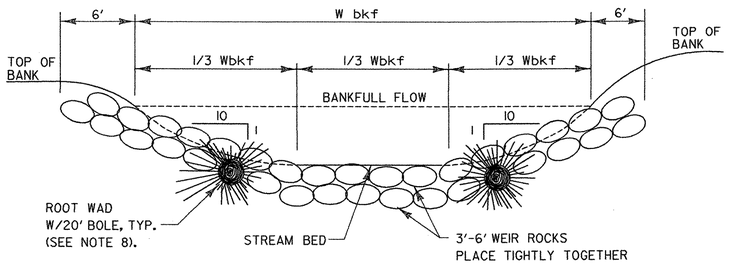
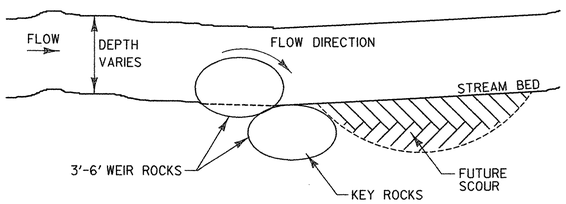
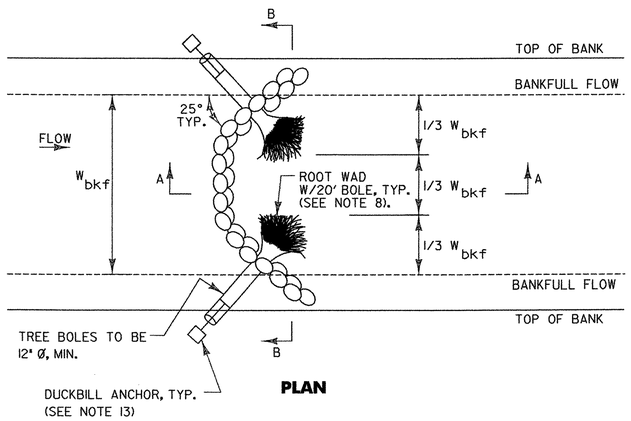



**SECTION B–B**




**SECTION A–A**




**PLAN**

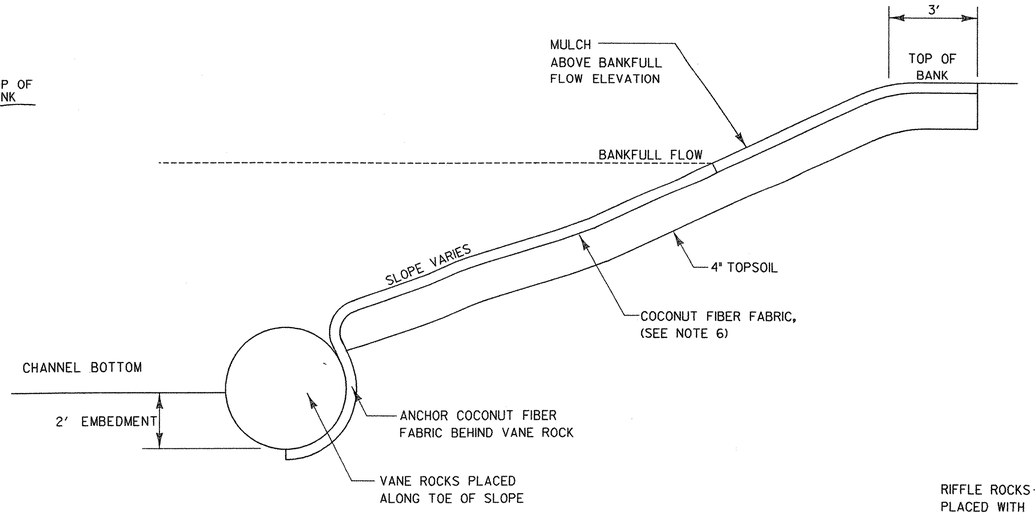
## ROCK WEIR

N.T.S.

| APPROXIMATE QUANTITIES | |
|---|---|
| ROCK WEIR | |
| ROOT WAD WITH BOLE | 2 EA |
| 5/16" GALVANIZED WIRE ROPE | 20 LF |
| DUCKBILL ANCHOR | 2 EA |
| STONE FILL, TYPE IV (MOD.) | 350 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 175 CY |
| STONE FILL, TYPE I | 7 CY |

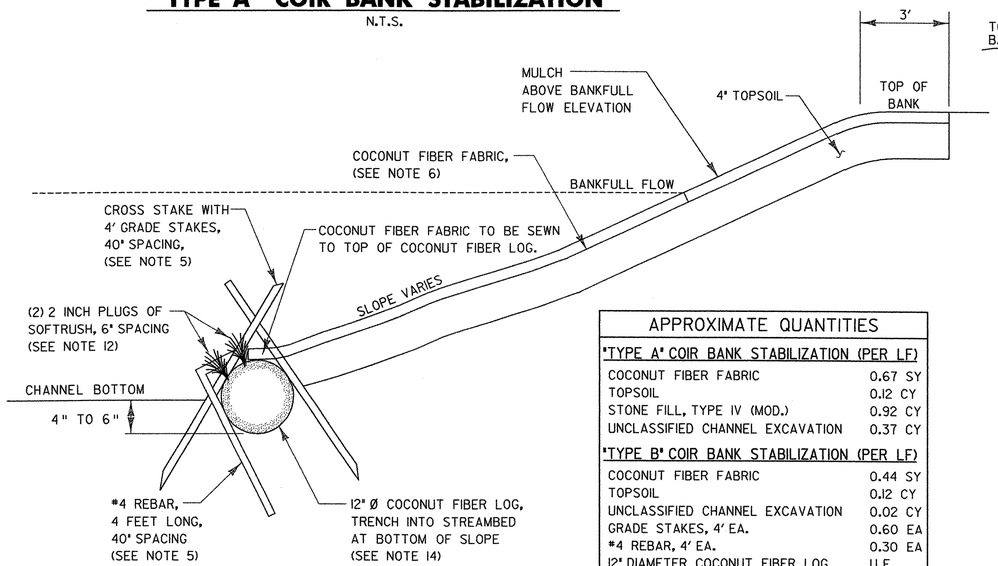
NOTES:

1. FOR BANKFULL WIDTH AND OTHER DESIGN CRITERIA, SEE TITLE SHEET.
2. FOR DESIGN BANKFULL ELEVATIONS SEE PROFILE SHEETS.
3. FOR LOCATIONS OF STRUCTURES SEE PLAN SHEETS.
4. CONSTRUCT RIFFLE PERPENDICULAR TO DESIGN THALWEG. SEE CONSTRUCTION PLANS AND PROFILES FOR THALWEG LOCATIONS AND ELEVATIONS.
5. STAKES AND REBAR ARE TO BE TILTED DOWNSTREAM TO AVOID SNAGGING OF DEBRIS. REBAR IS TO BE FIELD BENT TO WRAP AROUND COCONUT FIBER LOG.
6. FIBER MAT SHALL BE ROLANKA BIO D-MAT 90, OR APPROVED EQUAL. FIBER MAT SHALL BE LAID WITH 2' OVERLAP IN THE DIRECTION OF FLOW AND ATTACHED TO BANK WITH 8" SOD STAPLES WITH A 2' SQUARE SPACING.
7. VANE ROCKS AND WEIR ROCKS SHALL BE CLASSIFIED AS STONE FILL, TYPE IV (MOD.), AND SHALL MEET THE FOLLOWING SIZE REQUIREMENTS:
   - NO DIMENSION CAN BE < 3 FEET
   - AT LEAST 2 DIMENSIONS MUST BE > 4 FEET
   - AT LEAST 1 DIMENSION MUST BE > 5 FEET




## "TYPE A" COIR BANK STABILIZATION

N.T.S.

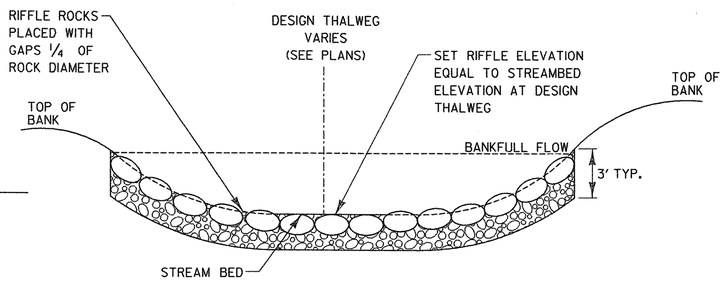



## "TYPE B" COIR BANK STABILIZATION

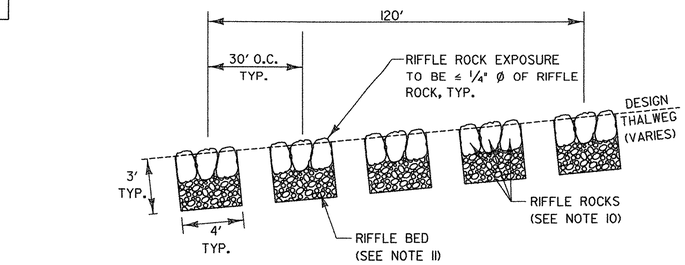
N.T.S.

| APPROXIMATE QUANTITIES | |
|---|---|
| "TYPE A" COIR BANK STABILIZATION (PER LF) | |
| COCONUT FIBER FABRIC | 0.67 SY |
| TOPSOIL | 0.12 CY |
| STONE FILL, TYPE IV (MOD.) | 0.92 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 0.37 CY |
| "TYPE B" COIR BANK STABILIZATION (PER LF) | |
| COCONUT FIBER FABRIC | 0.44 SY |
| TOPSOIL | 0.12 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 0.02 CY |
| GRADE STAKES, 4' EA. | 0.60 EA |
| #4 REBAR, 4' EA. | 0.30 EA |
| 12" DIAMETER COCONUT FIBER LOG | 1 LF |

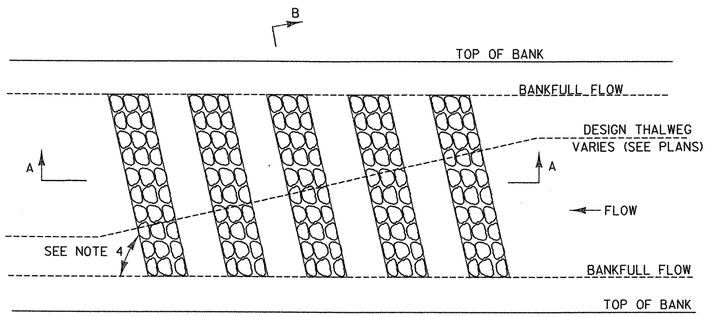
8. ROOT WADS SHALL HAVE A MINIMUM FAN DIAMETER OF 6'.
9. CHINK BEHIND ROCK VANES AND ROCK WEIRS WITH TYPE I STONE TO INHIBIT PIPING OF SEDIMENT THROUGH THE STRUCTURES. USE 6-8 CY TYPE I STONE PER STRUCTURE. (TYP.)
10. RIFFLE ROCK SHALL BE CLASSIFIED AS STONE FILL, TYPE II (MOD.), AND SHALL MEET THE FOLLOWING SIZE REQUIREMENTS:
    - AT LEAST 2 DIMENSIONS MUST BE > 12 INCHES
    - AT LEAST 1 DIMENSION MUST BE > 15 INCHES
11. RIFFLE BED MATERIAL SHALL BE CLASSIFIED AS GRANULAR BORROW (MOD) AND SHALL CONSIST OF GRAVEL AND COBBLES TAKEN FROM BARS ABOVE BANKFULL FLOW OR OTHER GRAVEL AND COBBLES LOCATED ON SITE, AS DIRECTED BY THE ENGINEER.
12. RUSH PLUGS ARE TO BE PLANTED ONLY WHEN FIBER LOG IS COMPLETELY SATURATED.
13. DUCKBILL ANCHORS SHALL BE DUCKBILL EARTH ANCHOR SYSTEMS MODEL 138 OR APPROVED EQUAL. ANCHORS SHALL HAVE A MINIMUM OF 5000 LBS OF ANCHOR HOLDING POWER IN NORMAL SOIL. ANCHORS SHALL BE ATTACHED TO TREES WITH 5/16" 7 X 19 GALVANIZED WIRE ROPE HAVING A MIN. BREAKING STRENGTH OF 9800 LBS.
14. COCONUT FIBER LOG SHALL BE ROLANKA BIO D-ROLL 30, OR APPROVED EQUAL.




**SECTION B–B**




**SECTION A–A**




**PLAN**

## CONSTRUCTED RIFFLE

N.T.S.

| APPROXIMATE QUANTITIES | |
|---|---|
| CONSTRUCTED RIFFLE | |
| STONE FILL, TYPE II (MOD.) | 95 CY |
| GRANULAR BORROW (MOD.) | 95 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 190 CY |

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z0283frm.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**MISC. DETAIL SHEET 3**

PLOT DATE: 06/06/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 119 OF 140

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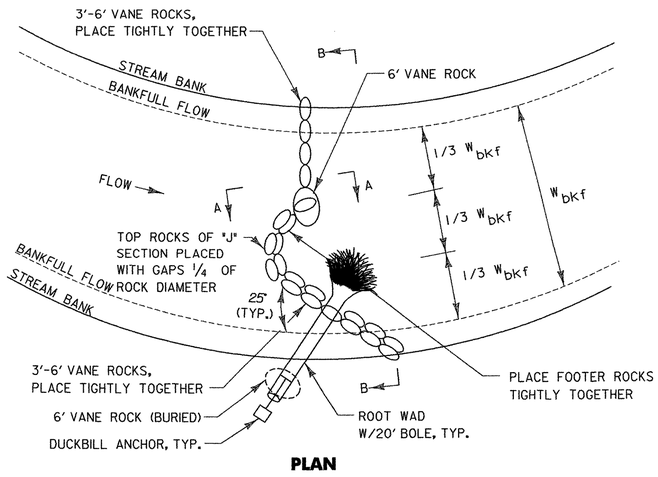
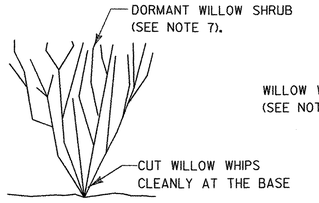
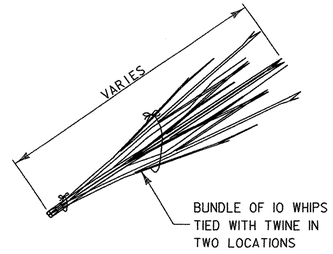


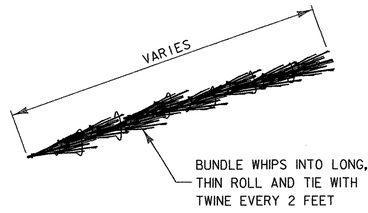

**PLAN**



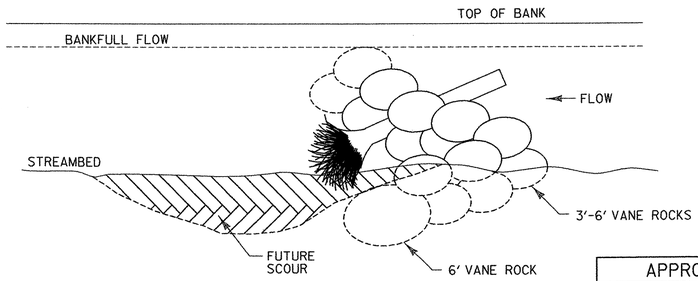

**WHIP**
N.T.S.




**WILLOW WATTLE**
N.T.S.

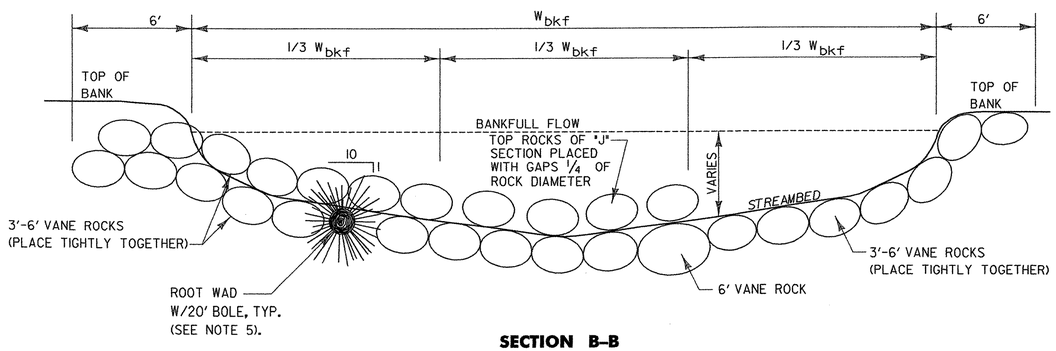



**WILLOW FASCINE**
N.T.S.



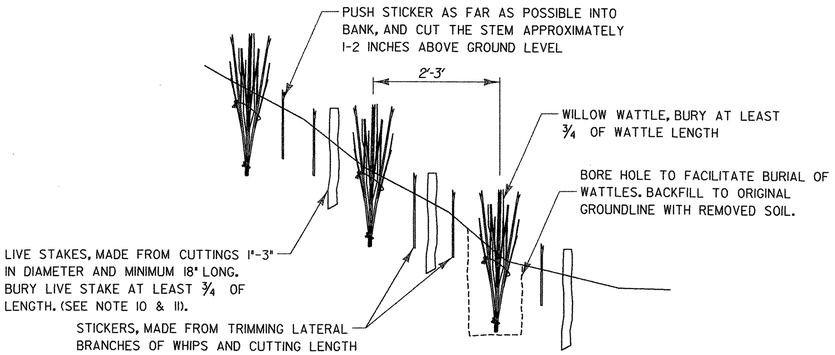

**SECTION A-A**

| APPROXIMATE QUANTITIES | |
|---|---|
| J VANE | |
| ROOT WAD WITH BOLE | 1 EA |
| 5/8" GALVANIZED WIRE ROPE | 10 LF |
| DUCKBILL ANCHOR | 1 EA |
| STONE FILL, TYPE IV (MOD.) | 258 CY |
| UNCLASSIFIED CHANNEL EXCAVATION | 157 CY |
| STONE FILL, TYPE I | 7 CY |




**SECTION B-B**

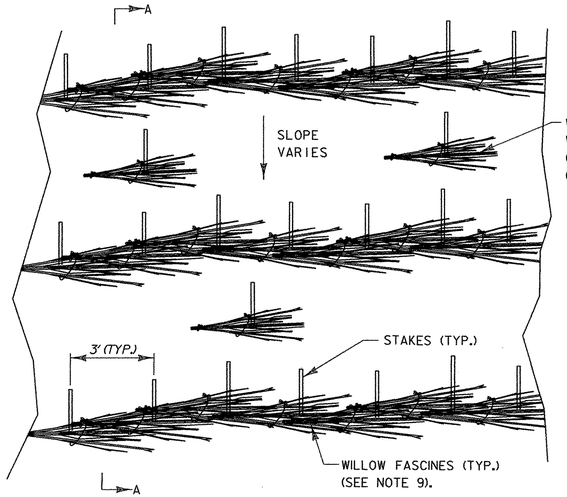
**J VANE**
N.T.S.



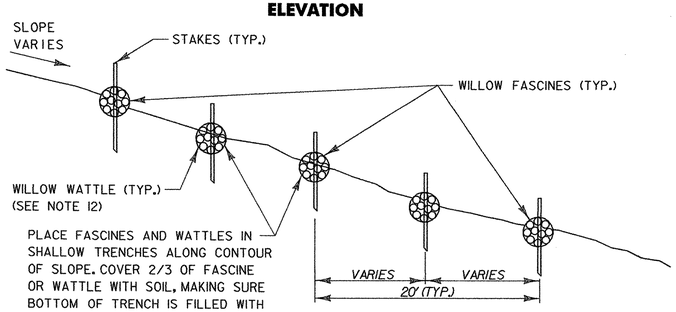

**LIVE STAKES, STICKERS AND WATTLES**
N.T.S.

NOTES:

1. FOR BANKFULL WIDTH AND OTHER DESIGN CRITERIA, SEE TITLE SHEET.
2. FOR DESIGN BANKFULL ELEVATIONS SEE, PROFILE SHEETS.
3. FOR LOCATIONS OF STRUCTURES, SEE PLAN SHEETS.
4. VANE ROCKS AND WEIR ROCKS SHALL BE CLASSIFIED AS STONE FILL, TYPE IV (MOD.) AND SHALL MEET THE FOLLOWING SIZE REQUIREMENTS:
   - NO DIMENSION CAN BE < 3 FEET
   - AT LEAST 2 DIMENSIONS MUST BE > 4 FEET
   - AT LEAST 1 DIMENSION MUST BE > 5 FEET
5. ROOT WADS SHALL HAVE A MINIMUM FAN DIAMETER OF 6'.
6. CHINK BEHIND ROCK VANES AND ROCK WEIRS WITH TYPE I STONE TO INHIBIT PIPING OF SEDIMENT THROUGH THE STRUCTURES. USE 6-8 CY TYPE I STONE PER STRUCTURE. (TYP.)
7. BOTH ROOTED NURSERY STOCK AND DORMANT CUTTINGS SHALL BE STORED IN A COOL AND MOIST ENVIRONMENT.
8. WILLOW WHIPS USED IN CONSTRUCTION OF WATTLES, AND FASCINES SHALL BE CUT THE DAY OF INSTALLATION TO ENSURE FRESHNESS.
9. FASCINES AND WATTLES PLACED ADJACENT TO FLOW SHALL HAVE BUTT ENDS POINTED UPSTREAM.
10. WHEN PLACING LIVE STAKES, MAKE A PILOT HOLE TO AVOID HAVING TO FORCE STAKES INTO GROUND AND RISK DAMAGING OR SPLITTING THE ENDS. CARE SHOULD BE TAKEN TO MAKE SURE BUDS ARE FACING UP.
11. LIVE STAKES AND STICKERS SHALL BE SOAKED IN WATER FOR A MINIMUM OF 2 HOURS PRIOR TO INSTALLATION. CUT STEMS MAY BE USED FOR LIVE STAKES AND STICKERS ON THE ENSUING DAY AFTER OVERNIGHT SOAKING.
12. WATTLES USED IN CONJUCTION WITH FASCINES WILL BE SPACED LATERALLY, AND ALONG THE SLOPE, AS DIRECTED BY THE ENGINEER.




**ELEVATION**




**SECTION A-A**

**WILLOW FASCINE AND WATTLE INSTALLATION**
N.T.S.

Dufresne-Henry

| | |
|---|---|
| PROJECT NAME: | TROUT RIVER RESTORATION |
| PROJECT NUMBER: | BRF-RS 0283(7) |
| FILE NAME: zo2837frm.dgn | PLOT DATE: 08/26/2003 |
| PROJECT LEADER: GAE | DRAWN BY: MBL |
| DESIGNED BY: SAR | CHECKED BY: WCH |
| **MISC. DETAIL SHEET 4** | SHEET 120 OF 140 |

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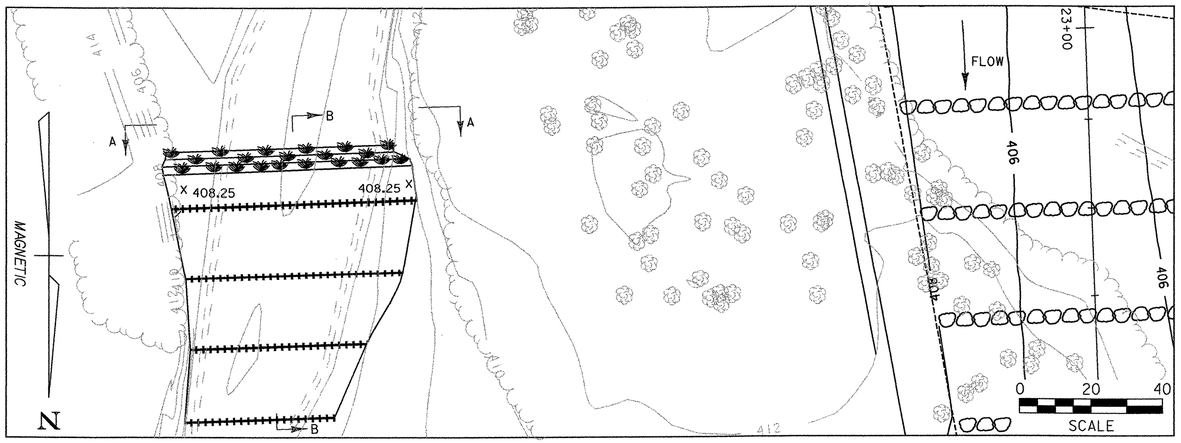
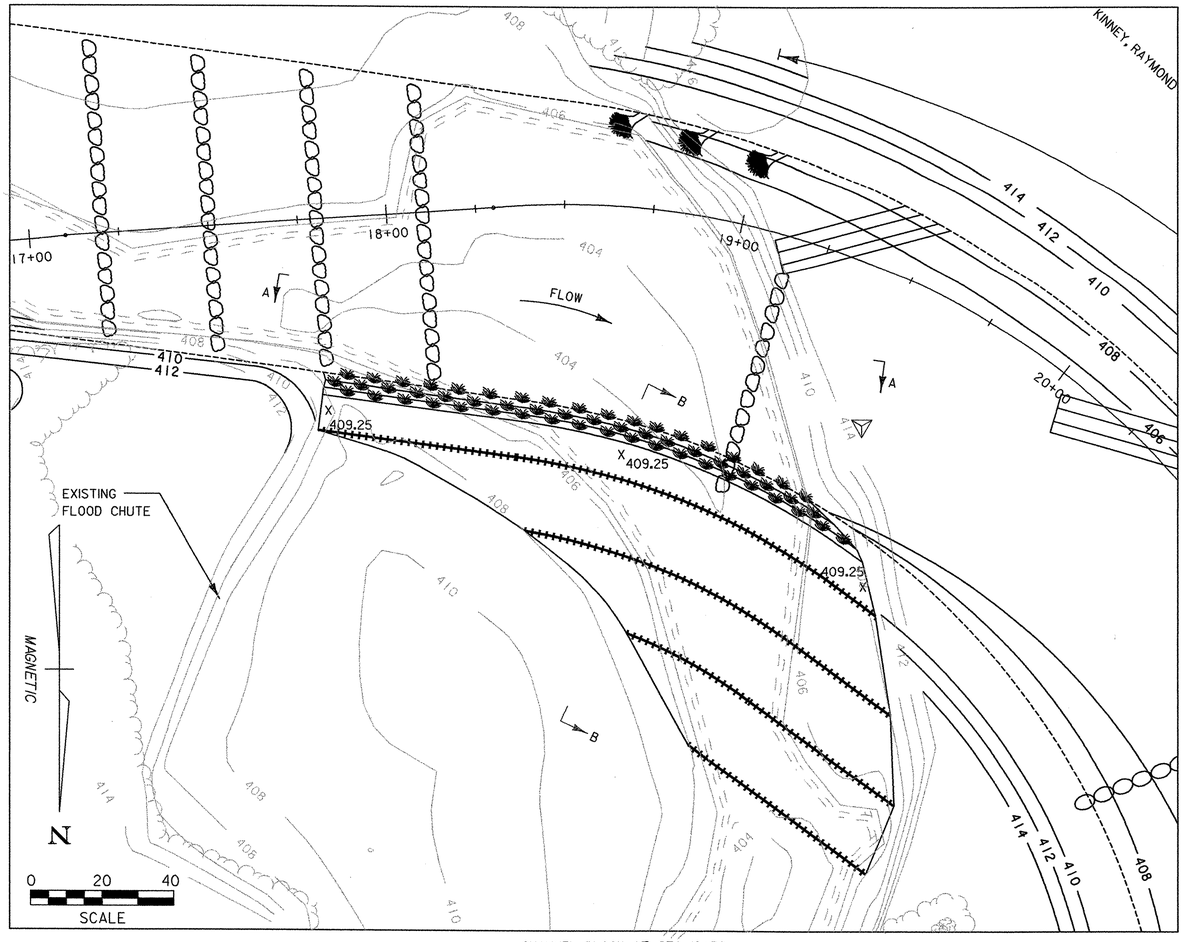
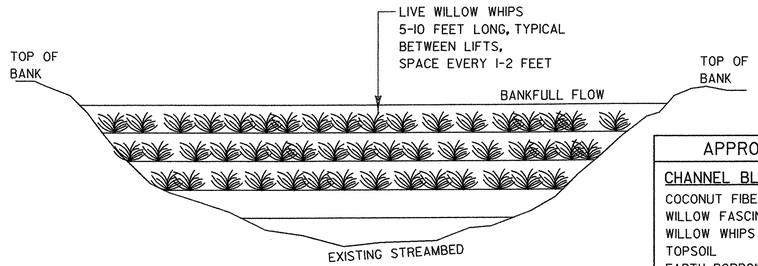



CHANNEL BLOCK AT STA. 23+25

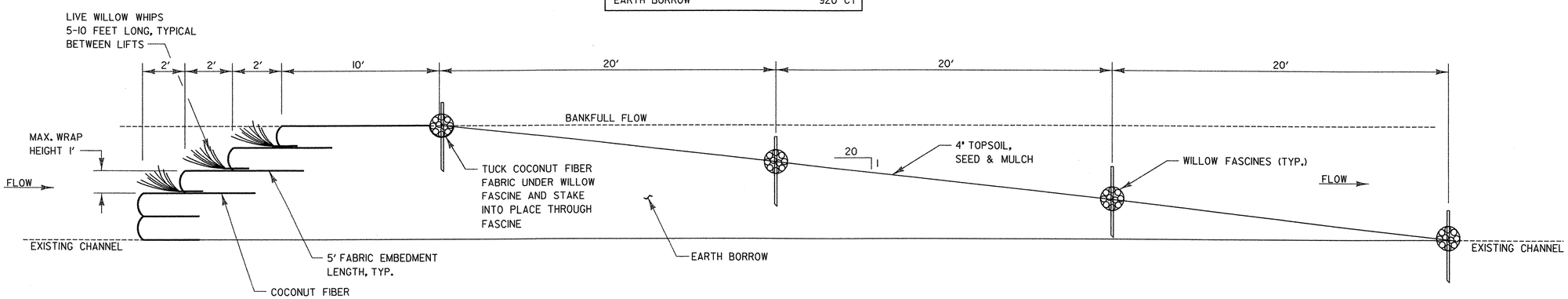



CHANNEL BLOCK AT STA. 18+50




**SECTION A–A**

| APPROXIMATE QUANTITIES | |
|---|---|
| **CHANNEL BLOCK AT STA. 23+25** | |
| COCONUT FIBER FABRIC | 520 SY |
| WILLOW FASCINES | 220 LF |
| WILLOW WHIPS | 210 EA |
| TOPSOIL | 40 CY |
| EARTH BORROW | 450 CY |
| **CHANNEL BLOCK AT STA. 18+50** | |
| COCONUT FIBER FABRIC | 1190 SY |
| WILLOW FASCINES | 430 LF |
| WILLOW WHIPS | 480 EA |
| TOPSOIL | 82 CY |
| EARTH BORROW | 920 CY |




**SECTION B–B**

**CHANNEL BLOCK**
N.T.S.

NOTES:

1. FOR BANKFULL WIDTH AND OTHER DESIGN CRITERIA, SEE TITLE SHEET.
2. FOR DESIGN BANKFULL ELEVATIONS SEE, PROFILE SHEETS.
3. FOR LOCATIONS OF STRUCTURES, SEE PLAN SHEETS.
4. COCONUT FIBER FABRIC SHALL BE ROLANKA BIO D-MAT 90, OR APPROVED EQUAL

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: zo2837chlbk.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**MISC. DETAIL SHEET 5**

PLOT DATE: 06/06/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 121 OF 140

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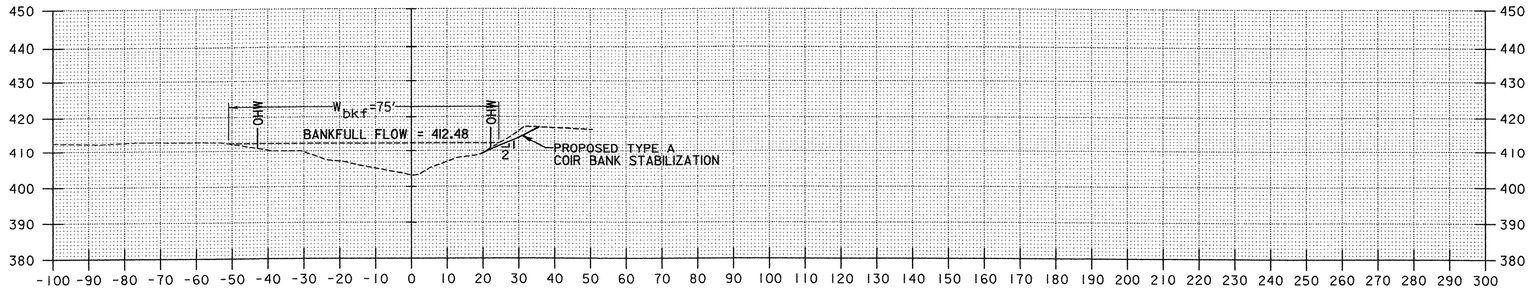


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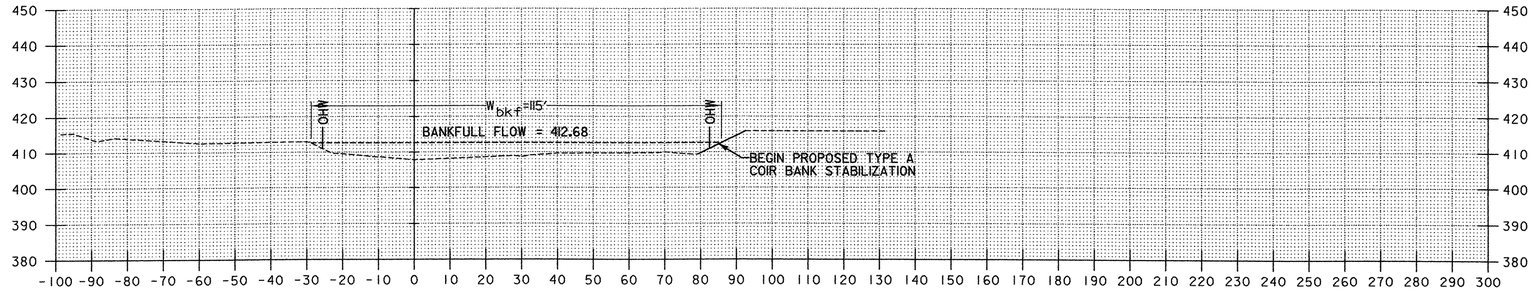


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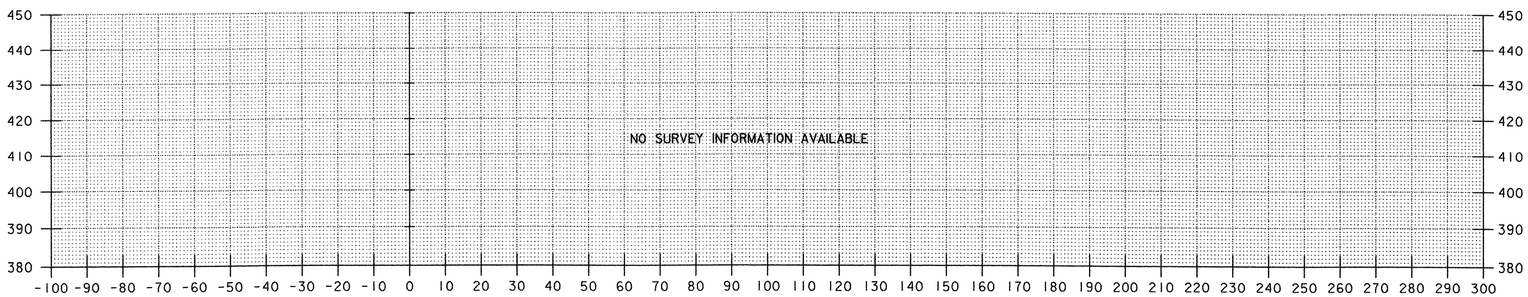
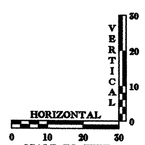



0+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.




Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 122 OF 140

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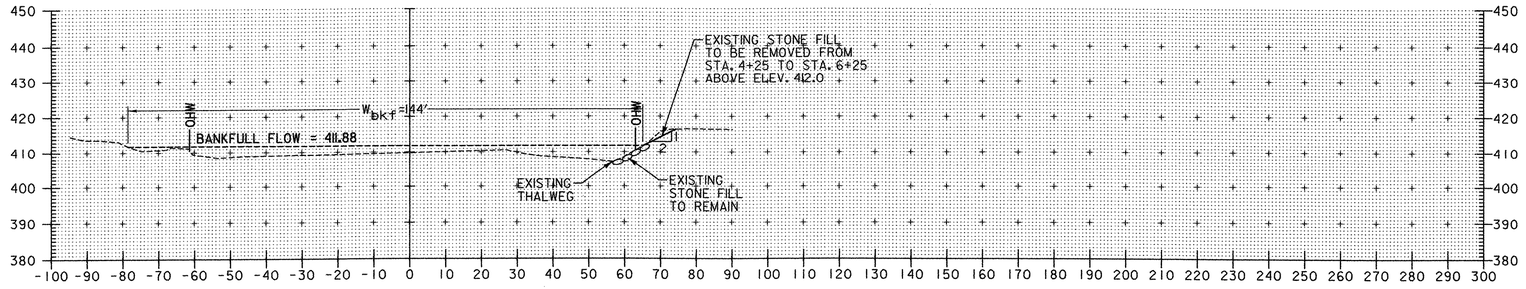


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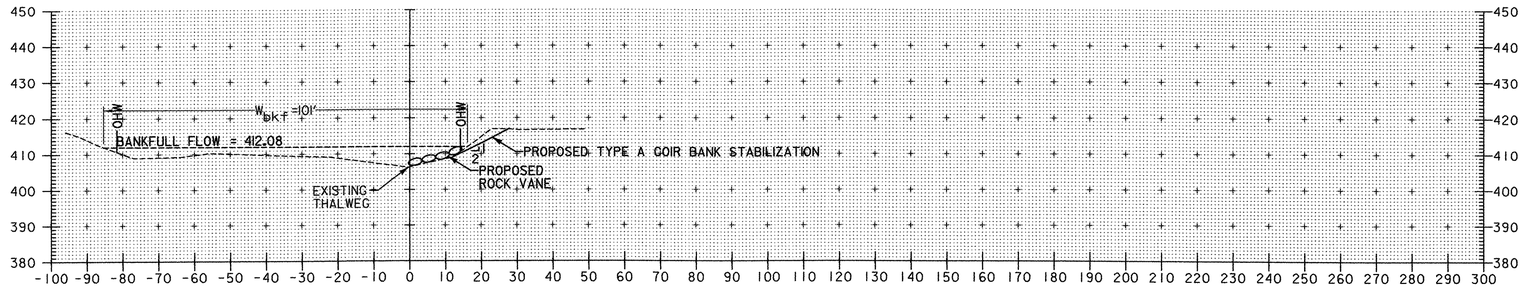


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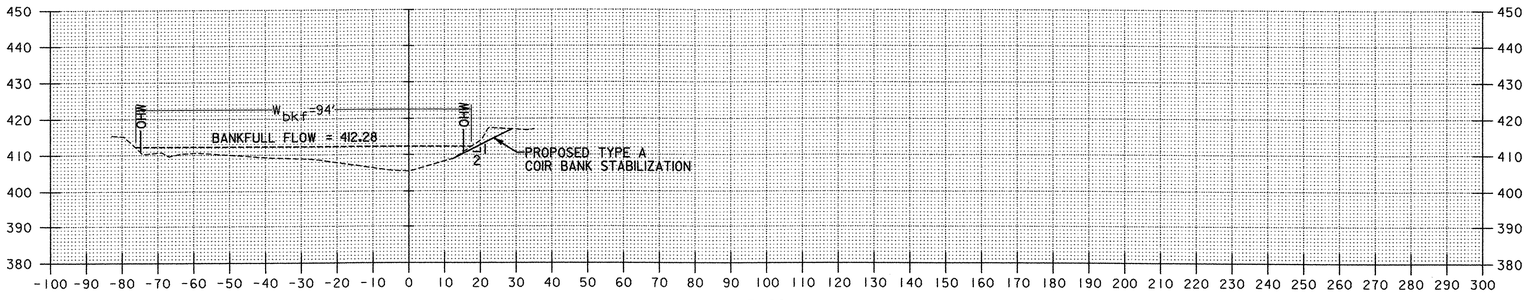


3+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.

VERTICAL 0 10 20 30
HORIZONTAL 0 10 20 30
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 123 OF 140

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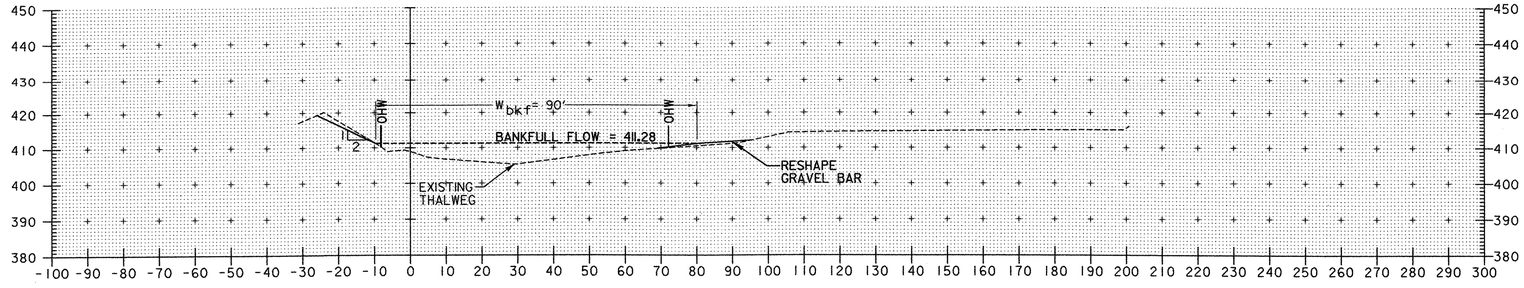


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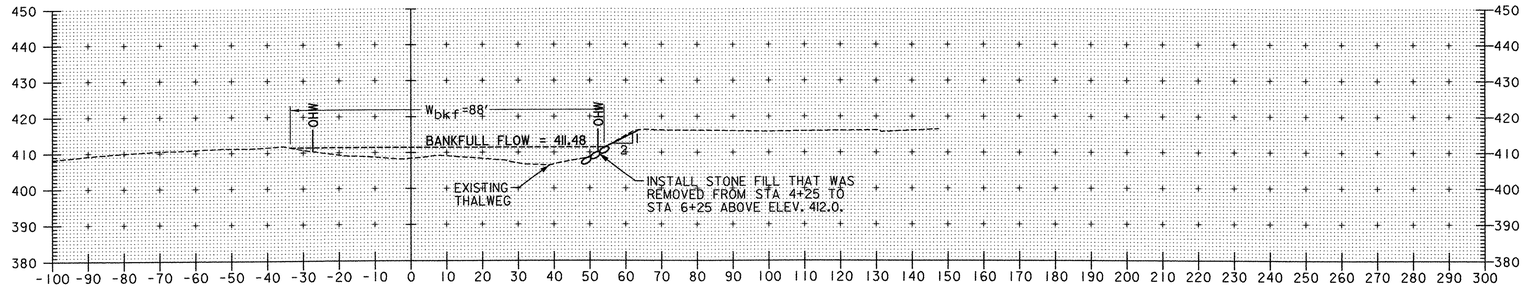


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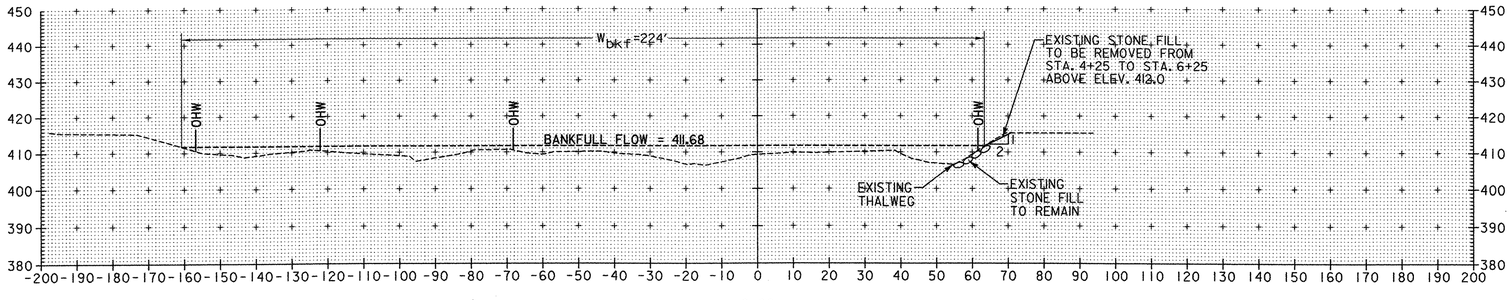


6+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.

VERTICAL 0 10 20

HORIZONTAL 0 10 20 30

SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION

PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH

**CROSS SECTIONS**

SHEET 124 OF 140

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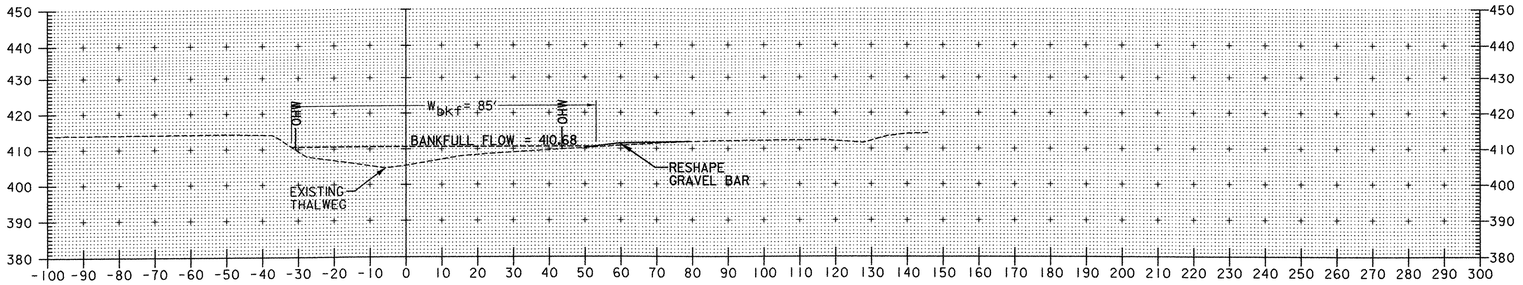


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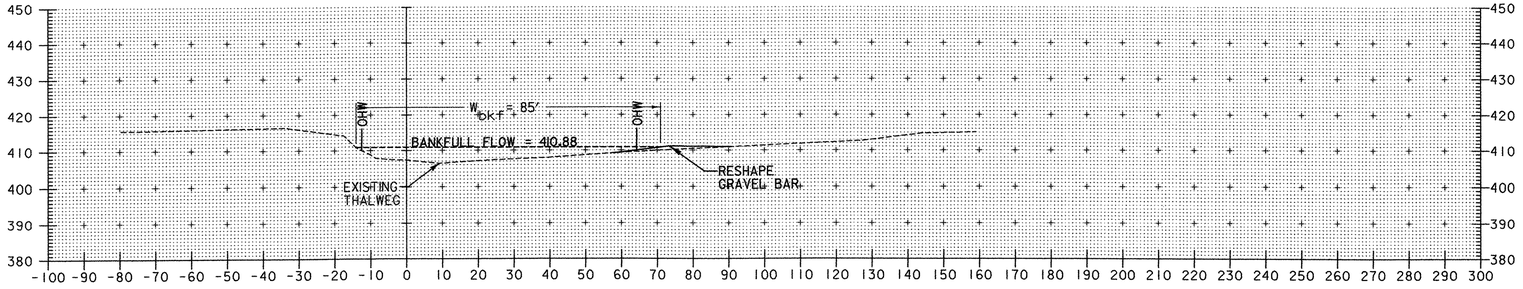


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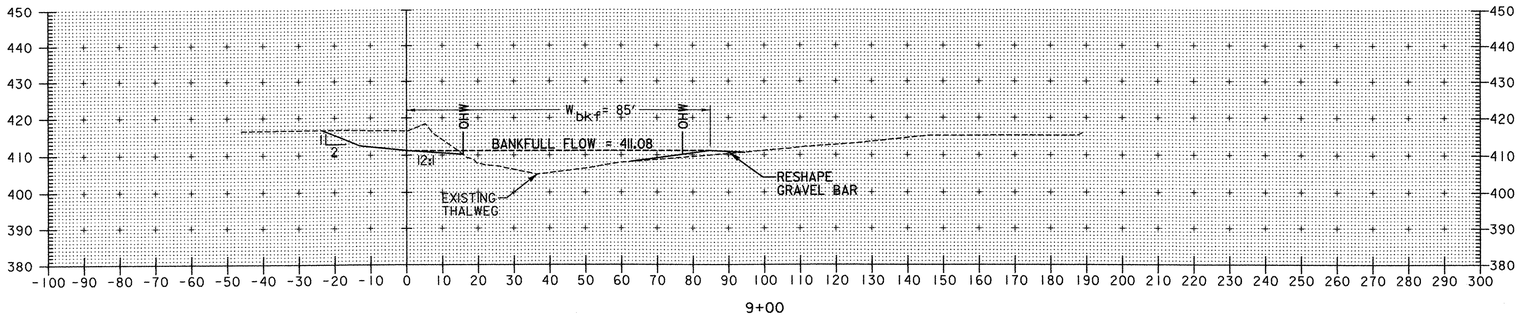


9+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.

VERTICAL 0 10 20 50
HORIZONTAL 0 10 20 30
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 125 OF 140

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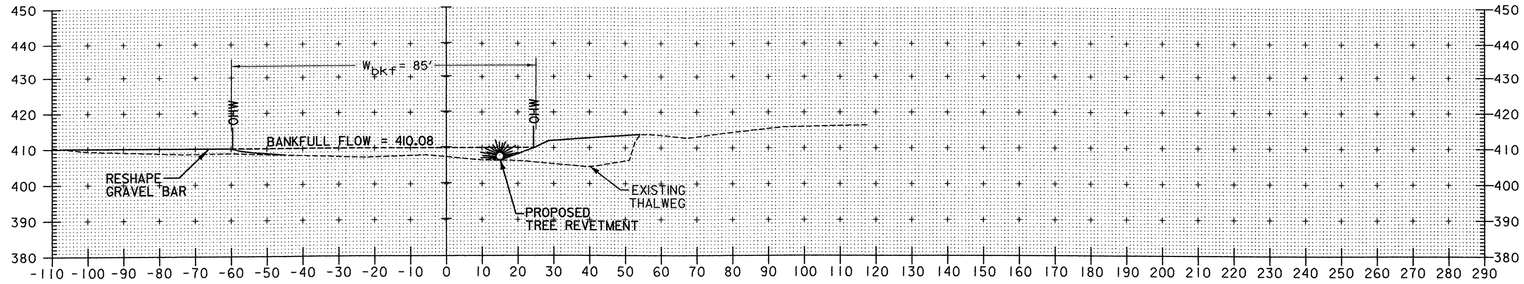


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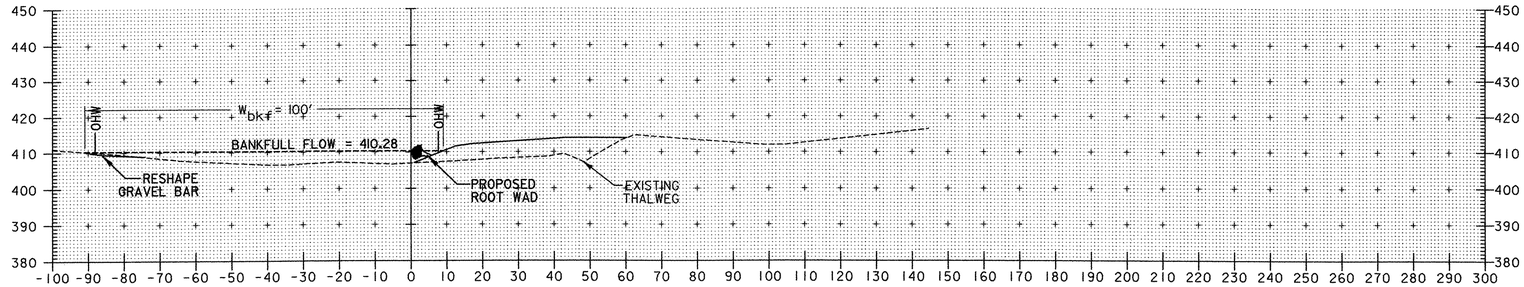


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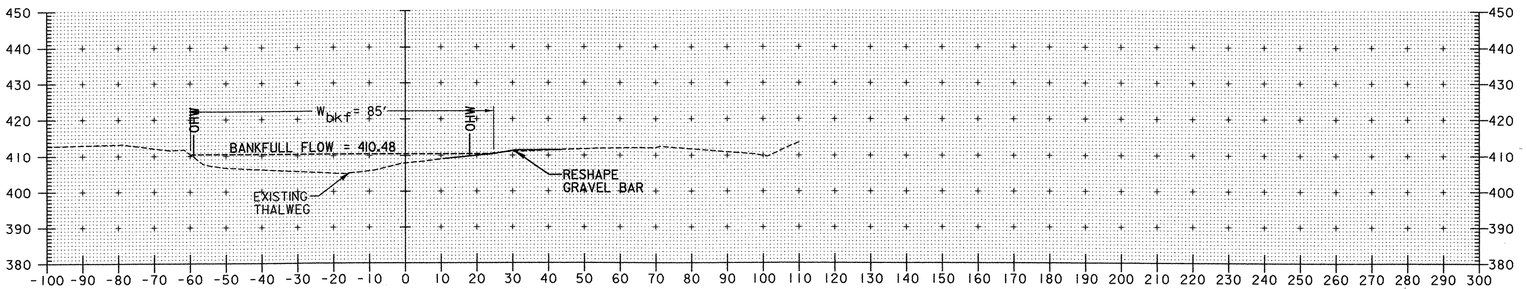
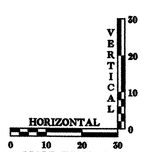



12+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.




Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 126 OF 140

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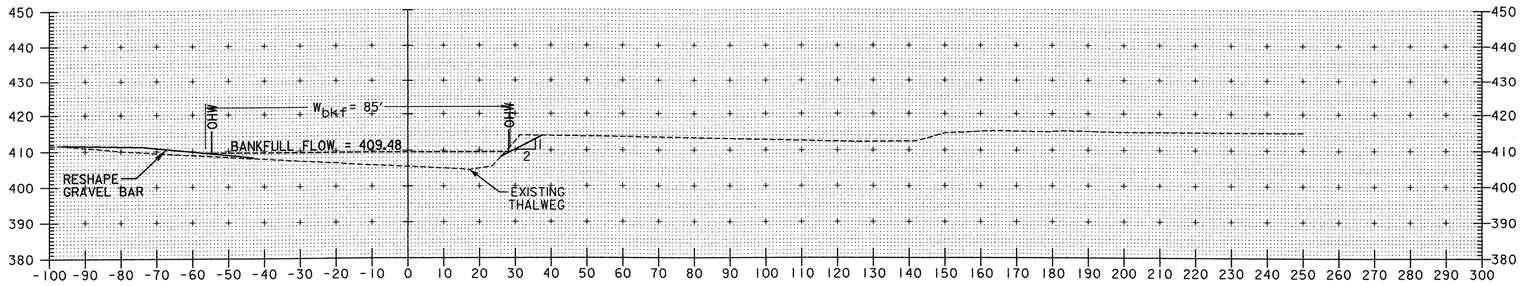


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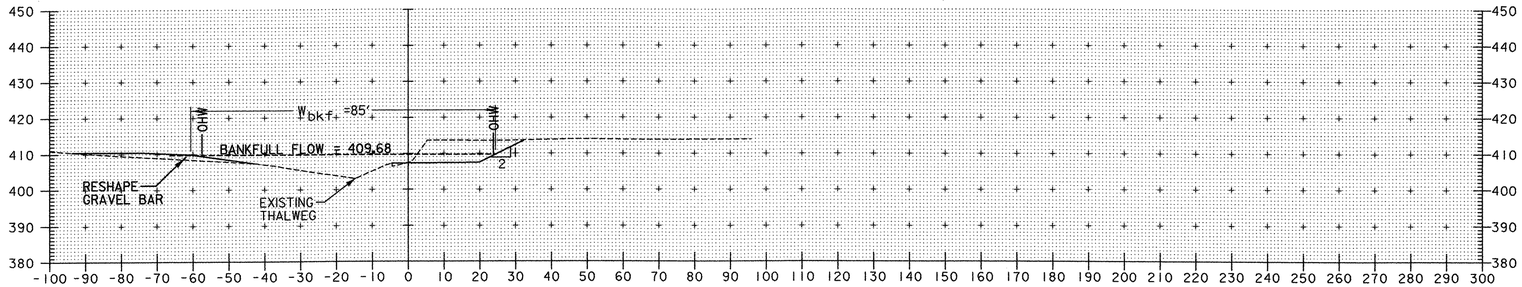


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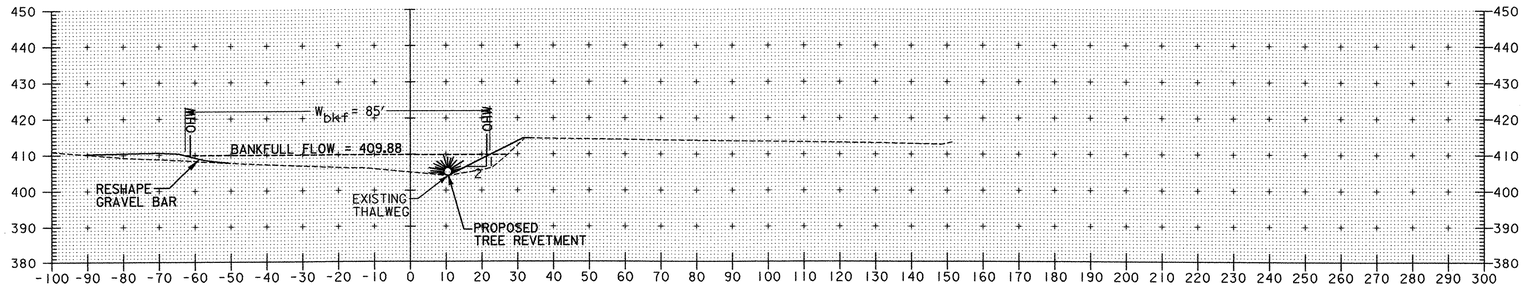


15+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.

VERTICAL 0 10 20 30
HORIZONTAL 0 10 20 30
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 04/09/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 127 OF 140

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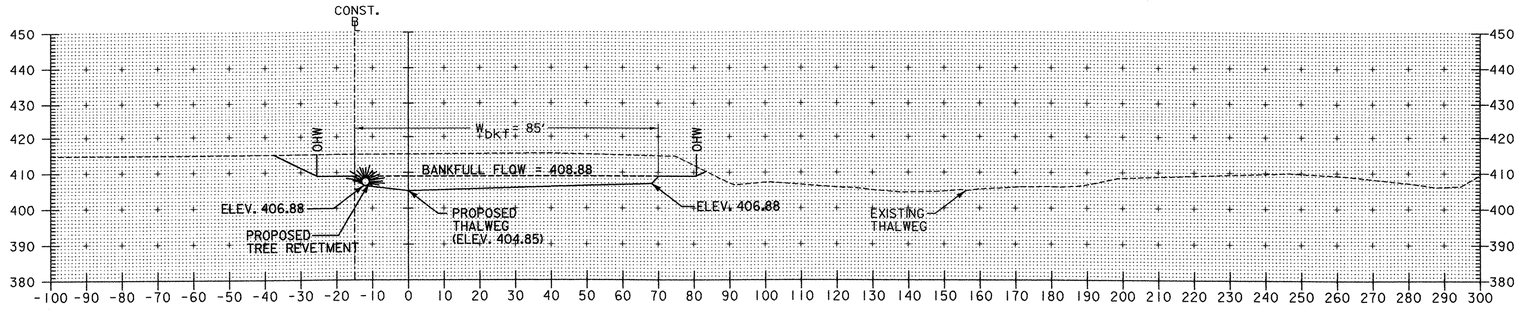
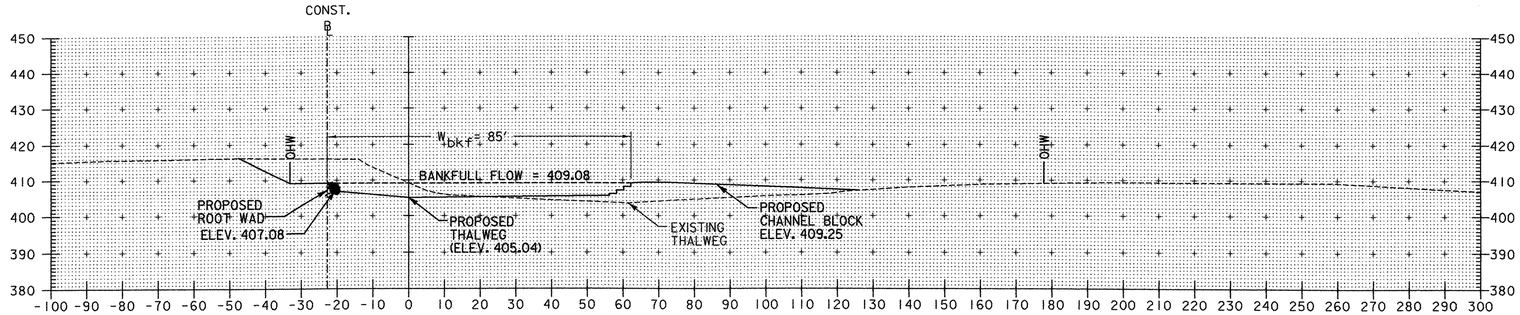
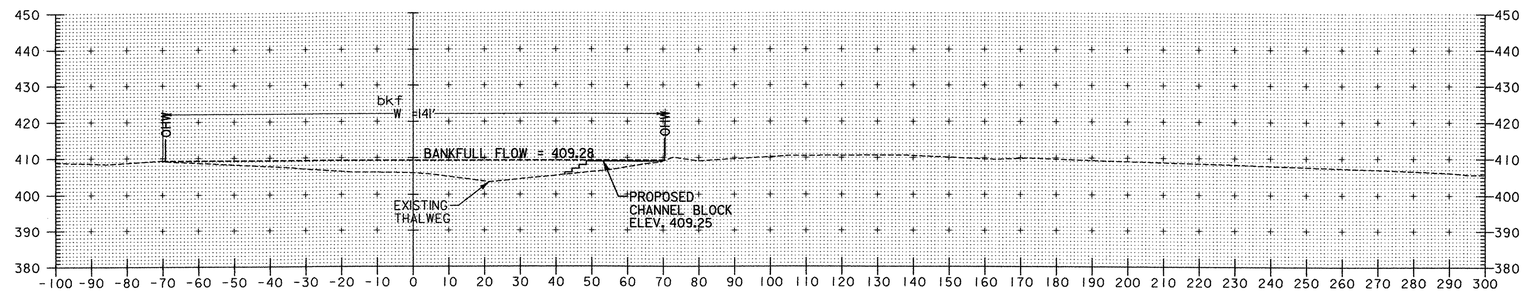



20+00




19+00




18+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
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VERTICAL 50 20 10 0
HORIZONTAL 0 10 20 30
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 128 OF 140

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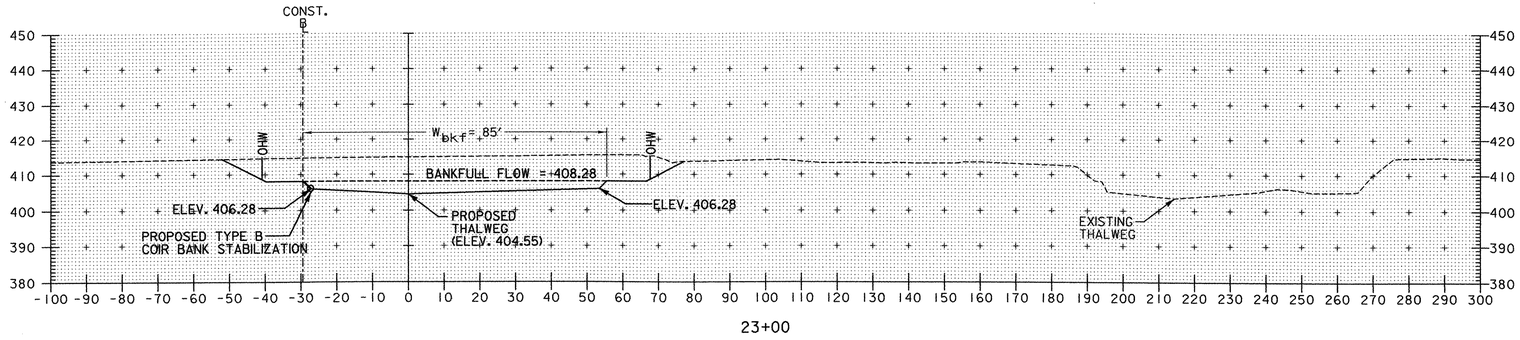
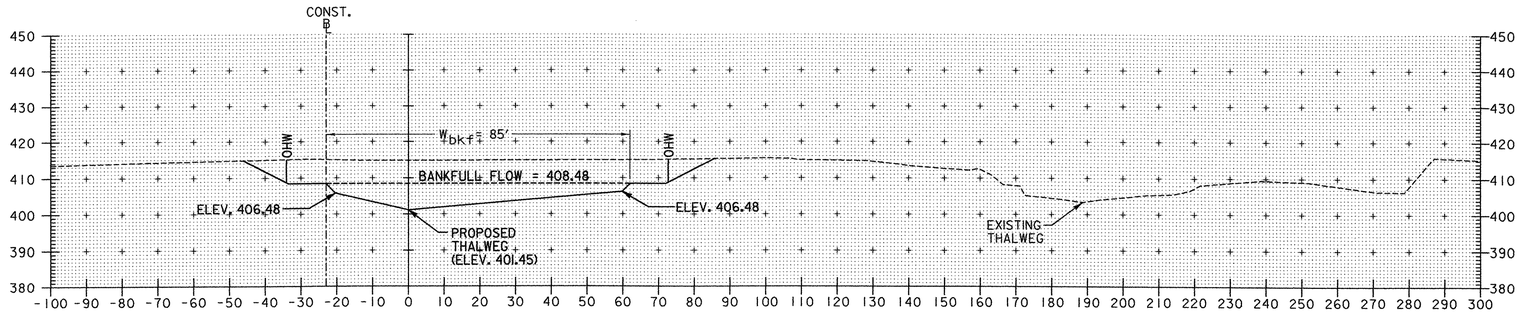
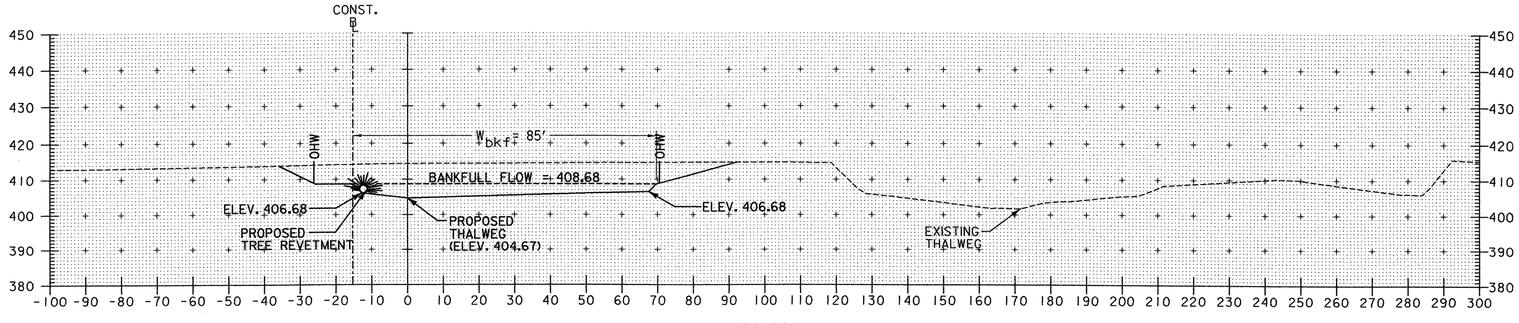



23+00




22+00




21+00

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
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VERTICAL 0 10 20 30
HORIZONTAL 0 10 20 30
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 129 OF 140

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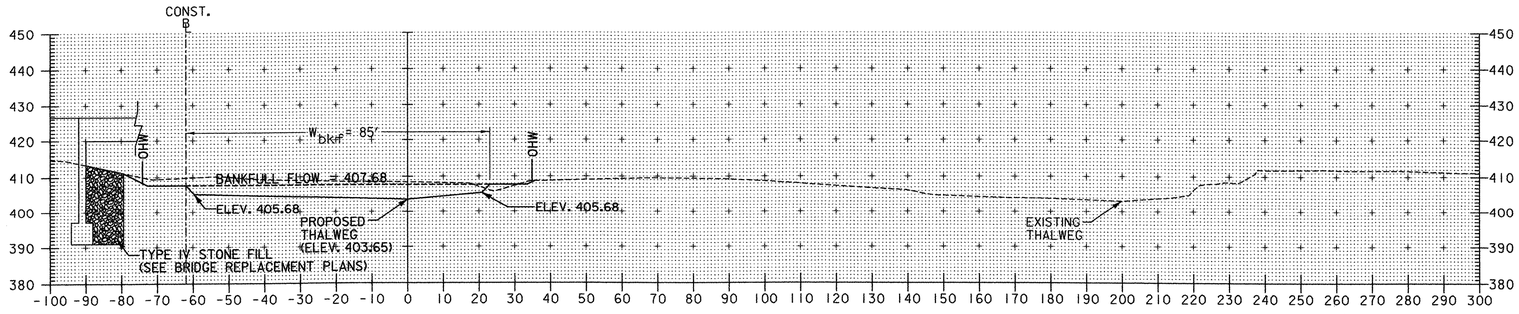
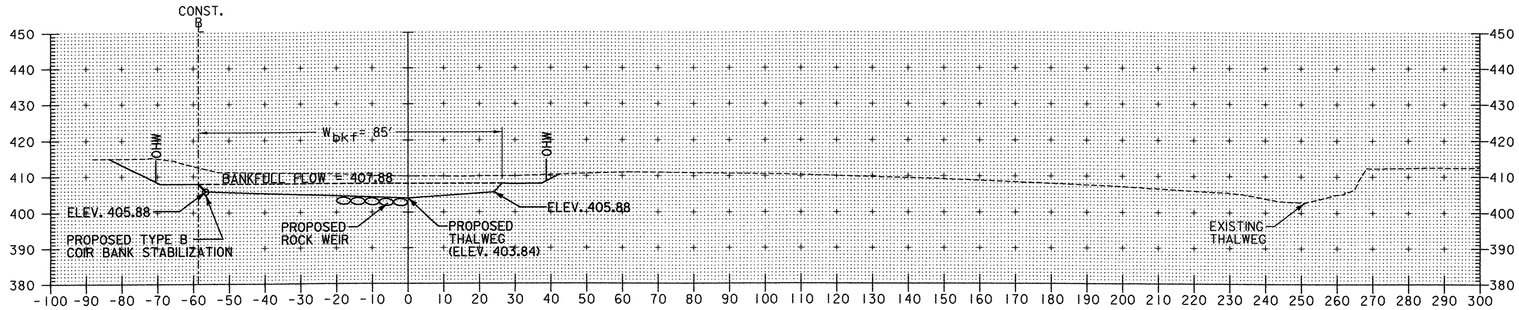
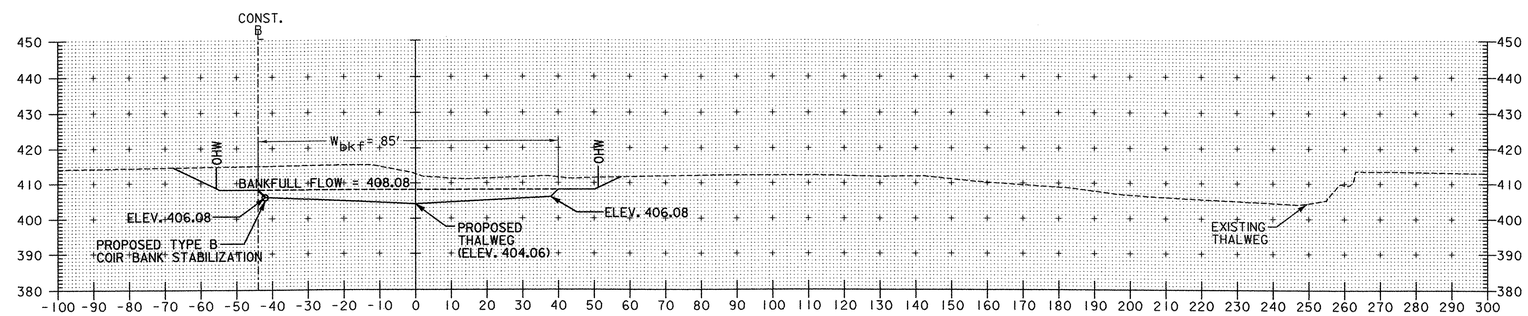



26+00




25+00




24+00

NOTES:

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3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
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VERTICAL 0 10 20 30
HORIZONTAL 0 10 20 30
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
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SHEET 130 OF 140

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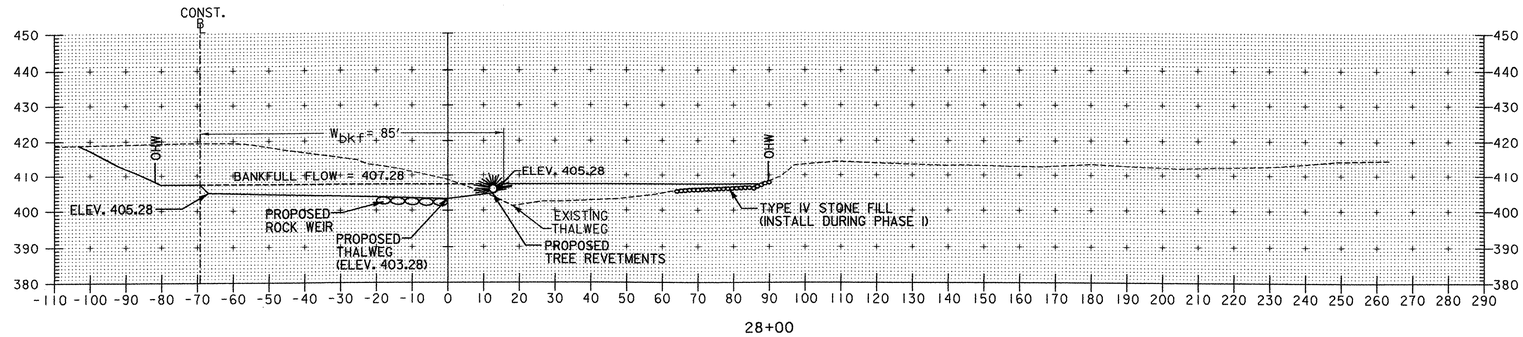
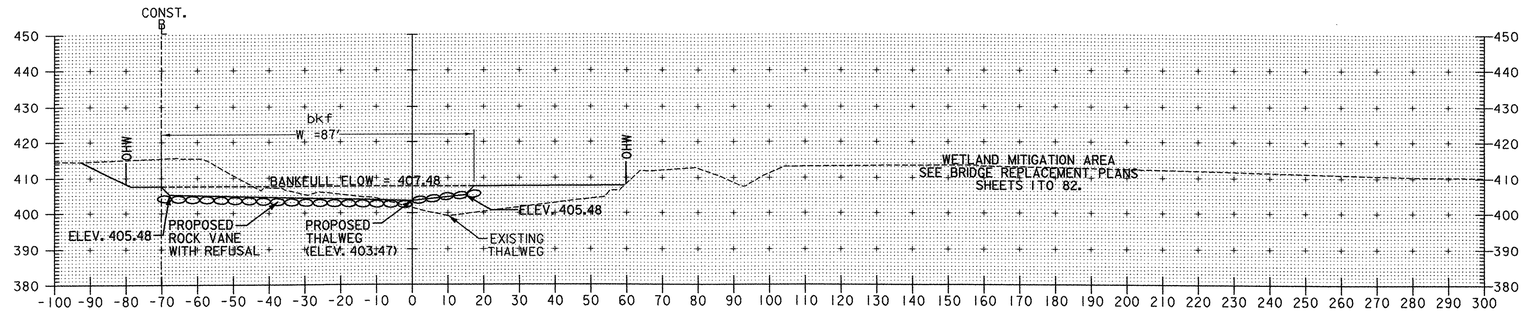
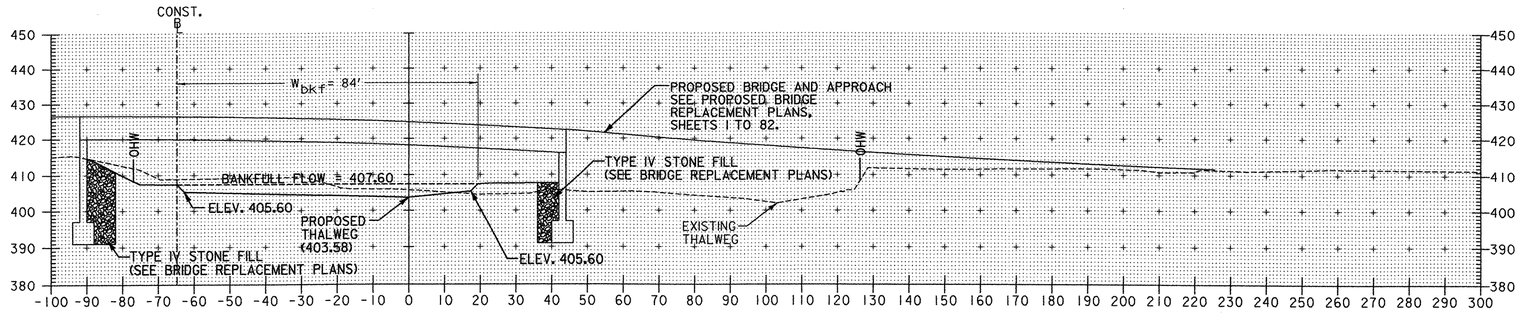



28+00




27+00

PROPOSED BRIDGE




26+42

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. OHW DENOTES EXISTING ORDINARY HIGH WATER.
4. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.

VERTICAL 50 20 10 0
HORIZONTAL 0 10 20 50
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**CROSS SECTIONS**

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 131 OF 140

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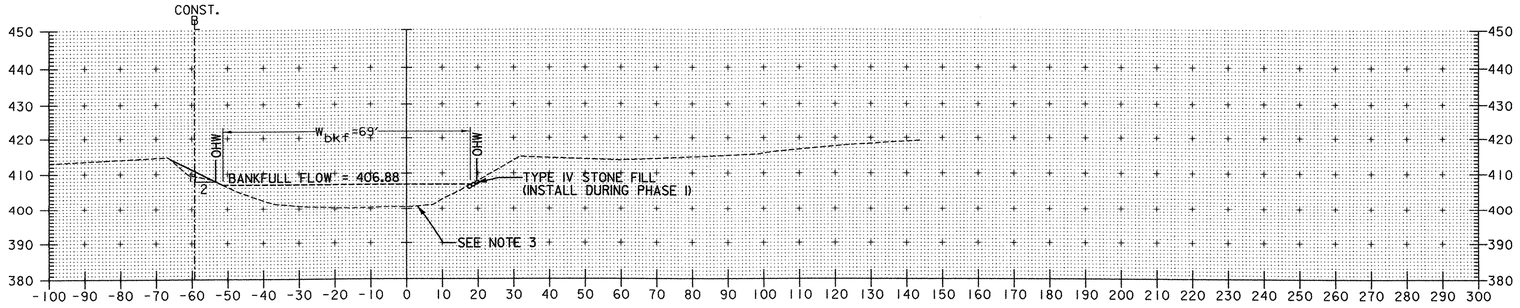
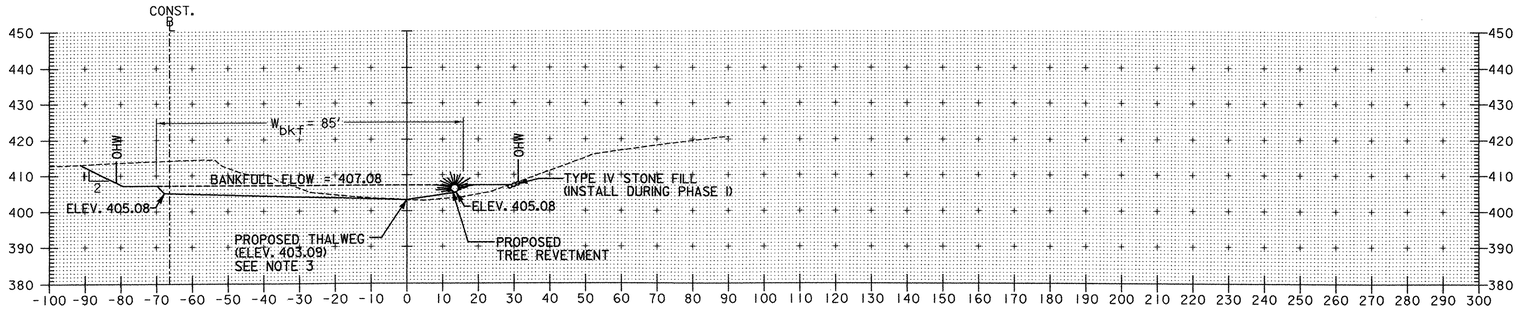
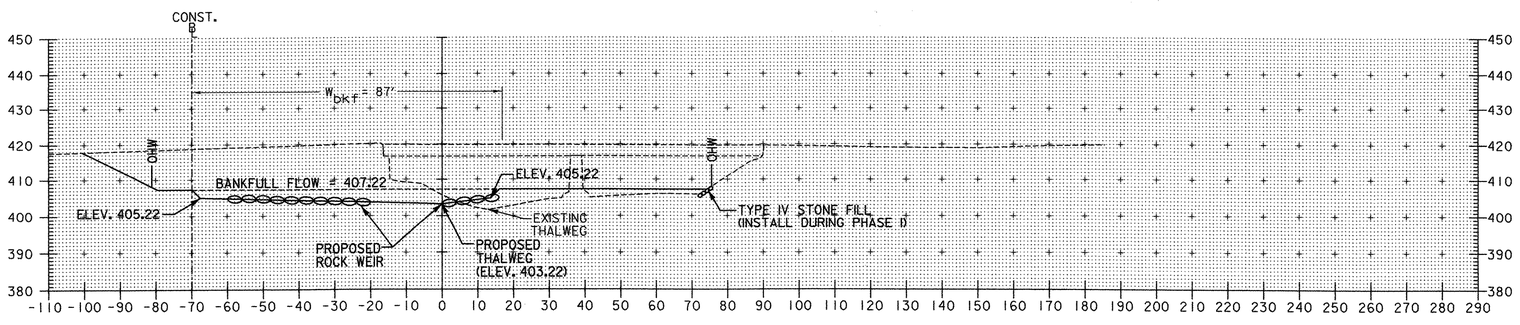



30+00




29+00




28+29

NOTES:

1. FOR LOCATION OF STRUCTURES SEE CONSTRUCTION PLAN SHEETS.
2. FOR DETAILS OF STRUCTURES SEE MISCELLANEOUS DETAIL SHEETS.
3. EXISTING CHANNEL BOTTOM GEOMETRY FOR STA. 29+00 AND 30+00 IS NOT KNOWN DUE TO ICE COVER AT THE TIME OF SURVEY. EXISTING CHANNEL BOTTOM GEOMETRY AT STA. 29+00 AND 30+00 IS ASSUMED.
4. OHW DENOTES EXISTING ORDINARY HIGH WATER.
5. CROSS SECTIONS ARE BASED ON THALWEG STATIONING.

VERTICAL 50 20 10 0
HORIZONTAL 0 10 20 50
SCALE IN FEET

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: z02837xsl.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
CROSS SECTIONS

PLOT DATE: 08/26/2003
DRAWN BY: MBL
CHECKED BY: WCH
SHEET 132 OF 140

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**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

# QUANTITY ESTIMATE

| DESCRIPTION: TYPE A COIR BANK STABILIZATION STA 1+00 - 4+40, RT | ROCK VANE STA 4+00, RT | ROCK VANE STA 6+50, RT | LOG VANE STA 8+25, LT | J VANE STA 9+25, LT | CONSTRUCTED RIFFLE STA 10+60 | ROOT WADS WITH CROSS BRACING STA 12+60 - 13+00, RT | ROCK VANE WITH REFUSAL STA 13+25, RT | TREE REVETMENT STA 13+60 - 14+20, RT | ROCK VANE STA 14+20, RT | TREE REVETMENT STA 14+80 - 15+20, RT | J VANE STA 15+25, RT | CONSTRUCTED RIFFLE STA 16+90 | CHANNEL BLOCK STA 18+50, RT | ROOT WADS WITH PINNING STA 18+80 - 19+00, LT | LOG VANE WITH REFUSAL STA 19+25, LT | TREE REVETMENT STA 19+60 - 20+50, LT | LOG VANE STA 20+25, LT | TREE REVETMENT STA 20+80 - 21+50, LT | J VANE STA 21+25, LT | TYPE B COIR BANK STABILIZATION STA 22+50 - 23+50, LT | CONSTRUCTED RIFFLE STA 22+90 | CHANNEL BLOCK STA 23+25, RT | ROCK WEIR STA 25+00 | ROCK VANE WITH REFUSAL STA 27+25, RT | TREE REVETMENT STA 27+50 - 28+10, RT | ROCK WEIR STA 28+60 | TREE REVETMENT STA 29+70 - 29+90, RT | | EARTHWORKS | | MISCELLANEOUS | | REMOVE HISTORIC BRIDGE ABUTMENT | | FARM DRIVE CROSSING | | ZONE 'A' PLANTINGS | ZONE 'B' PLANTINGS | TOTALS: ROUND | GRAND TOTAL | FINAL | | SUMMARY OF QUANTITIES: QUANTITIES | UNIT | ITEMS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | 1 | 1 | | 1 | LS | CLEARING AND GRUBBING |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 29050 | | | | | | | | | | | | 29050 | 29050 | | 29050 | CY | COMMON EXCAVATION |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | | | | | | | | 25 | 25 | | 25 | CY | REMOVAL OF CONCRETE OR MASONRY |
| 111 | 74 | 74 | 34 | 157 | 190 | 15 | 132 | 10 | 74 | 10 | 157 | 190 | | 15 | 92 | 10 | 34 | 10 | 157 | 6 | 190 | | 175 | 132 | 10 | 175 | 10 | | | | | | | | | | | | 6 | 2244 | 2250 | | 2250 | CY | UNCLASSIFIED CHANNEL EXCAVATION |
| | | | | | 95 | | | | | | | 95 | | | | | | | | | 95 | | | | | | | | | | | | | | | | | | 5 | 285 | 290 | | 290 | CY | GRANULAR BORROW (MOD.) |
| | | | | | | | | | | | | | 920 | | | | | | | | | 450 | | | | | | 6770 | | | | | | | | | | | | 8140 | 8140 | | 8140 | CY | EARTH BORROW |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 | | | | 15 | 15 | | 15 | CY | CRUSHED GRAVEL (704.05 A) |
| | 7 | 7 | | 7 | | | 7 | | 7 | | 7 | | | | | | | | 7 | | | | 7 | 7 | | 7 | | | | | | | | | | | | | | | | 70 | 70 | | 70 | CY | STONE FILL, TYPE I |
| | | | | | 95 | | | | | | | 95 | | | | | | | | | 95 | | | | | | | | | | | | | | | | | | 5 | 285 | 290 | | 290 | CY | STONE FILL, TYPE II (MOD.) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 650 | 650 | | 650 | CY | STONE FILL, TYPE IV |
| 276 | 148 | 148 | 27 | 258 | | | 206 | | 148 | | 258 | | | 21 | 85 | | 27 | | 258 | | | | 350 | 206 | | 350 | | | | | | | | | | | | | | | | 34 | 2766 | 2800 | | 2800 | CY | STONE FILL, TYPE IV (MOD.) |
| | | | 2 | 1 | | 3 | | | | | 1 | | | 3 | 2 | | 2 | | 1 | | | | 2 | | | 2 | | | | | | | | | | | | | | | | 19 | 19 | | 19 | EA | ROOT WAD WITH BOLE |
| | | | 400 | | | 210 | | | | | | | | 60 | 400 | | 400 | | | | | | | | | | | | | | | | | | | | | | | | | 1470 | 1470 | | 1470 | LF | 12" DIA. LOG |
| | | | | | | | | 4 | | 4 | | | | | | 4 | | 4 | | | | | | | | 4 | | 4 | | | | | | | | | | | | | | | 24 | 24 | | 24 | EA | 12" DIA. TREE, 10' - 20' LONG |
| | | | 45 | | | | | | | | | | | | 45 | | 45 | | | | | | | | | | | | | | | | | | | | | | | | | 135 | 135 | | 135 | SY | GEOTEXTILE FOR FILTER CURTAIN |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 55 | | | | 55 | 55 | | 55 | SY | GEOTEXTILE UNDER STONE FILL |
| 201 | | | | | | | | | | | | | 1190 | | | | | | | 132 | | 520 | | | | | | | | | | | | | | | | | | | 7 | 2043 | 2050 | | 2050 | SY | COCONUT FIBER FABRIC |
| | | | | | | | | | | | | | | | | | | | | 300 | | | | | | | | | | | | | | | | | | | | | | 300 | 300 | | 300 | LF | 12" DIA. COCONUT FIBER LOG |
| | | | 40 | 10 | | 30 | | 40 | | 40 | 10 | | | 30 | 40 | 40 | 40 | 40 | 10 | | | | 20 | | 40 | 20 | 40 | | | | | | | | | | | | | | | 10 | 490 | 500 | | 500 | LF | 1/4" AIRCRAFT CABLE |
| | | | 1 | 1 | | 3 | | 4 | | 4 | 1 | | | 3 | 1 | 4 | 1 | 4 | 1 | | | | 2 | | 4 | 2 | 4 | | | | | | | | | | | | | | | | 40 | 40 | | 40 | EA | DUCKBILL ANCHOR |
| | | | | | | | | | | | | | | | | | | | | 180 | | | | | | | | | | | | | | | | | | | | | | 180 | 180 | | 180 | EA | GRADE STAKES, 4' LONG |
| | | | | | | | | | | | | | | | | | | | | 90 | | | | | | | | | | | | | | | | | | | | | | 90 | 90 | | 90 | EA | #4 REBAR, 4' LONG |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 | | | | | 2 | 2 | | 2 | EA | 21" CMP END SECTION |
| 36 | | | | | | | | | | | | | 82 | | | | | | | 36 | | 40 | | | | | | 970 | | | | | | | | | | | | | 6 | 1164 | 1170 | | 1170 | CY | TOPSOIL |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 600 | | | | | | | | | | | | | | 600 | 600 | | 600 | LB | SEEDING |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 | | | | | | | | | | | | | | 20 | 20 | | 20 | TON | HAY MULCH |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 | | | | 19 | 19 | | 19 | EA | 2 1/2" CAL. RED MAPLE |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | | | | 33 | 33 | | 33 | EA | 1 1/2" CAL. RED MAPLE |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 | | | | 19 | 19 | | 19 | EA | 2 1/2" CAL. SUGAR MAPLE |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 | | | | 19 | 19 | | 19 | EA | 2 1/2" CAL. GREEN ASH |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | | | | 33 | 33 | | 33 | EA | 1 1/2" CAL. GREEN ASH |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 | | | | 19 | 19 | | 19 | EA | 2 1/2" CAL. WHITE ASH |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | | | | 33 | 33 | | 33 | EA | 1 1/2" CAL. WHITE ASH |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | | | | 33 | 33 | | 33 | EA | 1 1/2" CAL. SERVICEBERRY |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | HIGHLAND CRANBERRY (1 GAL.) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | HIGHLAND CRANBERRY (BARE ROOT) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | NANNYBERRY (1 GAL.) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | NANNYBERRY (BARE ROOT) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | ELDERBERRY (1 GAL.) |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | WITCH-HAZEL (1 GAL.) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | WITCH-HAZEL (BARE ROOT) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | | | | 33 | 33 | | 33 | EA | SPECKLED ALDER (1 GAL.) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | | | | 33 | 33 | | 33 | EA | SPECKLED ALDER (BARE ROOT) |
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| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | RED-OSIER DOGWOOD (1 GAL.) |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 33 | 7 | | | 40 | 40 | | 40 | EA | RED-OSIER DOGWOOD (BARE ROOT) |
| | | | | | | | | | | | | | | | | | | | | 1200 | | | | | | | | | | | | | | | | | | | | | | 1200 | 1200 | | 1200 | EA | SOFTRUSH (2 INCH PLUG) |
| | | | | | | | | | | | | | 480 | | | | | | | | | 210 | | | | | | | | 100 | | | | | | | | | | | 10 | 790 | 800 | | 800 | EA | WILLOW WHIPS |
| | | | | | | | | | | | | | 430 | | | | | | | | | 220 | | | | | | | | 100 | | | | | | | | | | | | 750 | 750 | | 750 | LF | WILLOW FASCINES |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 | | | | | | | | | | | | 50 | 50 | | 50 | EA | WILLOW WATTLES |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 100 | | | | | | | | | | | | 100 | 100 | | 100 | EA | WILLOW "LIVE STAKES" |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 200 | | | | | | | | | | | | 200 | 200 | | 200 | EA | WILLOW "STICKERS" |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 | | | | | | | | | | | | 25 | 25 | | 25 | EA | TRANSPLANTING TREES |

**THE VERMONT AGENCY OF TRANSPORTATION (VAOT) IS PROVIDING THIS SHEET FOR INFORMATION ONLY.**

**THE ITEMS SHOWN ON THIS SHEET ARE NOT BID ITEMS. THE QUANTITIES SHOWN ARE ESTIMATED AMOUNTS.**

TROUT RIVER RESTORATION
ESTIMATED ITEM BREAKDOWN
SHEET 133 OF 140

# STREAM RESTORATION GLOSSARY

OVERVIEW: Following is a glossary of terms commonly used in stream restoration. Not all of the terms appear in the plans, and the list is intended as a general reference.

**Aggradation** -- A progressive buildup or raising of the channel bed and floodplain due to sediment deposition. geologic process by which stream beds are raised in elevation and floodplains are formed.
Aggradation is an indicator that a change in the stream's discharge and/or bedload characteristics is taking place. Opposite of degradation.

**Alluvial** -- Deposited by running water.

**Alluvium** -- Sediment or loose material such as clay, silt, sand, gravel, and larger rocks deposited by moving water.

**Anabranch** -- A diverging branch of a river which re-enters the main stream.

**Aquatic ecosystem** -- Any body of water, such as a stream, lake or estuary, and all organisms and nonliving components within it, functioning as a natural system.

**Aquatic habitat** -- Habitat that occurs in free water.

**Armoring** -- A natural process where an erosion-resistant layer of relatively large particles is established on the surface of the streambed through removal of finer particles by stream flow.
A properly armored streambed generally resists movement of bed material at discharges up to approximately ¾ bankfull depth.

**Avulsion** -- A change in channel course that occurs when a stream suddenly breaks through its banks - typically bisecting an over extended meander arc.

**Backwater** -- (1) A small, generally shallow body of water attached to the main channel, with little or no current of its own.
(2) A condition in subcritical flow where the water surface elevation is raised by downstream flow impediments.

**Backwater pool** -- A pool that formed as a result of an obstruction like a large tree, weir, or boulder.

**Bank stability** -- The ability of a stream bank to counteract erosion or gravity forces.

**Bankfull channel depth** -- The maximum depth of a channel within a riffle segment when flowing at a bankfull discharge.

**Bankfull channel width** -- The top surface width of a stream channel when flowing at a bankfull discharge.

**Bankfull discharge** -- The stream discharge corresponding to the water stage which first overtops the natural banks. This flow occurs, on average, about once every 1 to 2 years.

**Bankfull width** -- The width of a river or stream channel between the highest banks on either side of a stream.

**Bar** -- An accumulation of alluvium(usually gravel or sand) caused by a decrease in sediment transport capacity on the inside of meander bends or in the center of an overwide channel.

**Barrier** -- A physical block or impediment to the movement or migration of fish, such as a waterfall (natural barrier) or a dam (man-made barrier).

**Base flow** -- The sustained portion of stream discharge that is drawn from natural storage sources, and not affected by human activity or regulation.

**Bed load** -- Sediment moving on or near the stream bed and transported by jumping, rolling, or sliding on the bed layer of a stream. See also suspended load.

**Bed material** -- The sediment mixture of which a streambed is composed.

**Bed material load** -- That portion of the total sediment load with sediments of a size found in the stream bed.

**Bed roughness** -- A measure of the irregularity of the stream bed as it contributes to flow resistance. Commonly expressed as a Manning 'n' value.

**Bed slope** -- The inclination of the channel bottom, measured as the elevation drop per unit length of channel.

**Bioengineering** - Use the native and natural materials to stabilize streambanks.

**Bole** - Term referring to the stem or trunk of a tree.

**Braided channel** -- A stream characterized by flow within several channels which successively meet and divide. Braiding often occurs when sediment loading is too large to be carried by a single channel.

**Braiding (of River Channels)** -- Successive division and rejoining of river flow with accompanying islands.

**Buffer strip** -- A barrier of permanent vegetation, either forest or other vegetation, between waterways and land uses such as agriculture or urban development, designed to intercept and filter out pollution before it reaches the surface water resource.

**Canopy** -- A layer of foliage in a forest stand. This most often refers to the uppermost layer of foliage, but it can be used to describe lower layers in a multistoried stand.
Leaves, branches and vegetation that are above ground and/or water that provide shade and cover for fish and wildlife.

**Cascade** -- A short, steep drop in stream bed elevation often marked by boulders and agitated white water.

**Catchment** -- (1) The catching or collecting of water, especially rainfall. (2) A reservoir or other basin for catching water. (3) The water thus caught. (4) A watershed.

**Channel** -- An area that contains continuously or periodically flowing water that is confined by banks and a stream bed.

**Channelization** -- The process of changing (usually straightening) the natural path of a waterway.

**Cobble** -- Substrate particles that are smaller than boulders and larger than gravels, and are generally 64-256 mm in diameter. Can be further classified as small and large cobble.

**Coconut fiber fabric** - Fabric composed of coconut husk and other vegetative fibers which help stabilize slopes and encourage plant growth within the fiber.

**Coconut fiber log** - Cylindrical structures composed of coconut husk and other vegetative fibers bound together and installed at the toe of streambanks to trap sediment and encourage plant growth within the fiber rolls.

**COIR** -Natural coconut fiber.

**Confluence** -- (1) The act of flowing together; the meeting or junction of two or more streams; also, the place where these streams meet.
(2) The stream or body of water formed by the junction of two or more streams; a combined flood.

**Critical shear stress** -- The minimum amount of shear stress exerted by stream currents required to initiate soil particle motion.
Because gravity also contributes to stream bank particle movement but not on stream beds, critical shear stress along streambanks is less than for stream beds.

**Debris flow** -- A rapid moving mass of rock fragments, soil, and mud, with more that half of the particles being larger than sand size.

**Debris torrent** -- Rapid movement of a large quantity of materials (wood and sediment) down a stream channel during storms or floods.
This generally occurs in smaller streams and results in scouring of streambed.

**Degradation** -- (1) A progressive lowering of the channel bed due to scour.
Degradation is an indicator that a change in the stream's discharge and/or sediment load is occurring. The opposite of aggradation.
(2) A decrease in value for a designated use.

**Dike** -- (1) (Engineering) An embankment to confine or control water, especially one built along the banks of a river to prevent overflow of lowlands; a levee.
(2) A low wall that can act as a barrier to prevent a spill from spreading. (3) (Geology) A tabular body of igneous (formed by volcanic action) rock that cuts across the structure of adjacent rocks or cuts massive rocks.

**Diversion** -- The transfer of water from a stream, lake, aquifer, or other source of water by a canal, pipe, well, or other conduit to another watercourse or to the land, as in the case of an irrigation system.

**Diversion channel** -- (1) An artificial channel constructed around a town or other point of high potential flood damages to divert floodwater from the main channel to minimize flood damages. (2) A channel carrying water from a diversion dam.

**Drainage area** - The total surface area upstream of a point on a stream that drains toward that point. Not to be confused with watershed. The drainage area may include one or more watersheds.

**Drainage basin** -- The total area of land from which water drains into a specific river.

**Dredging** -- Removing material (usually sediments) from wetlands or waterways, usually to make them deeper or wider.

**Dry wash** -- A streambed that carries water only during and immediately following rainstorms.

**Ecosystem** -- Recognizable, relatively homogeneous units, including the organisms they contain, their environment, and all the interactions among them.

**Eddy** -- A circular current of water, usually resulting from an obstruction.

**Embankment** -- An artificial deposit of material that is raised above the natural surface of the land and used to contain, divert, or store water, support roads or railways, or for other similar purposes.

**Energy dissipation** -- The loss of kinetic energy of moving water due to internal turbulence, bottom friction, large rocks, debris, or other obstacles that impede flow.

**Ephemeral streams** -- Streams which flow only in direct response to precipitation and whose channel is at all times above the water table.

**Erosion** -- Wearing away of rock or soil by the gradual detachment of soil or rock fragments by water, wind, ice, and other mechanical, chemical, or biological forces.

**Estuary** -- A coastal body of water that is semi-enclosed, openly connected with the ocean, and mixes with freshwater drainage from land.

**Fascine** - Dormant branch cuttings bound together in cylindrical bundles and placed in shallow trenches on slopes of streambanks.

**Flash flood** -- A sudden flood of great volume, usually caused by a heavy rain. Also, a flood that crests in a short length of time and is often characterized by high velocity flows.

**Floodplain** -- Land built of sediment that gets covered with water as a result of the flooding of a nearby stream.

**Floodplain (100-year)** -- The area adjacent to a stream that is on average inundated once a century.

**Flow** -- The amount of water passing a particular point in a stream or river, usually expressed in cubic-feet per second (cfs).

**Fluvial** -- Migrating between main rivers and tributaries. Of or pertaining to streams or Rivers.

**Fluvial** -- Pertaining to streams or produced by stream action.

**Ford** -- A shallow place in a body of water, such as a river, where one can cross by walking or riding on an animal or in a vehicle.

**Forest canopy** -- The cover of branches and foliage formed collectively by the crowns of adjacent trees and other woody growth.

**Gabion** -- A wire basket or cage that is filled with gravel or cobble and generally used to stabilize stream banks.

**Geomorphology** -- A branch of both physiography and geology that deals with the form of the earth, the general configuration of its surface, and the changes that take place due to erosion of the primary elements and in the buildup of erosional debris.

**Glide** -- A section of stream that has little or no turbulence.

**Headwater** -- Referring to the source of a stream or river.

**Hydraulic gradient** -- The slope of the water surface. See also stream bed gradient.

**Hydraulic radius** -- The cross-sectional area of a stream divided by the wetted perimeter.

**Hydrograph** -- A curve showing stream discharge over time.

**Hydrology** -- The scientific study of the water of the earth, its occurrence, circulation and distribution, its chemical and physical properties, and its interaction with its environment, including its relationship to living things.

**Incised river** -- A river that erodes its channel by the process of degradation to a lower base level than existed previously or is consistent with the current hydrology.

**Inflow** -- Water that flows into a stream, lake, reservoir or forebay during a specified period.

**In stream cover** -- The layers of vegetation, like trees, shrubs, and overhanging vegetation, that are in the stream or immediately adjacent to the wetted channel.

**In stream flows** -- (1) Portion of a flood flow that is contained by the channel. (2) A minimum flow requirement to maintain ecological health in a stream.

**In stream use** -- Use of water that does not require diversion from its natural watercourse. For example, the use of water for navigation, recreation, fish and wildlife, aesthetics, and scenic enjoyment.

**Intermittent stream** -- Any nonpermanent flowing drainage feature having a definable channel and evidence of scour or deposition. This includes what are sometimes referred to as ephemeral streams if they meet these two criteria.

**Invasives** - Plants which encroach on other species, taking over a streambank.

**Invertebrate drift** -- Stream and terrestrial invertebrates that float with the current.

**J vane** -- In stream structure composed of rocks, constructed for the purpose of reducing shear stress on streambanks and directing flow towards the center of the channel, where the loop of the "J" forms a scour pool over time.

**Large woody debris (LWD)** -- Pieces of wood larger than 10 feet long and 6 inches in diameter, in a stream channel.

**Levee** -- An embankment constructed to prevent a river from overflowing (flooding).

**Live stakes** - Live, rootable, dormant branch cuttings inserted and tamped into the ground on slopes of streambanks.

**Log vane** - In stream structure composed of logs, rocks and root wads constructed for the purpose of reducing shear stress on streambanks and directing flow towards the center of the channel.

**Mainstem** -- The principle channel of a drainage system into which other smaller streams or rivers flow.

**Mean annual discharge** -- Daily mean discharge averaged over a period of years. Mean annual discharge generally fills a channel to about 1/3 of its bankfull depth.

**Mean velocity** -- The average cross-sectional velocity of water in a stream channel. Surface values typically are much higher that bottom velocities. May be approximated in the field by multiplying the surface velocity, as determined with a float, times 0.8.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: zo2837frm.dgn
PROJECT LEADER: GAE
DESIGNED BY: SAR
**STORMWATER GLOSSARY**

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# STREAM RESTORATION GLOSSARY

**Meander** -- The winding of a stream channel, usually in an erodible alluvial valley. A series of sine-generated curves characterized by curved flow and alternating banks and shoals.
**Meander amplitude** -- The distance between points of maximum curvature of successive meanders of opposite phase in a direction normal to the general course of the meander belt, measured between centerlines of channels.
**Meander belt width** -- the distance between lines drawn tangential to the extreme limits of fully developed meanders. Not to be confused with meander amplitude.
**Meander length** -- The lineal distance down valley between two corresponding points of successive meanders of the same phase.
**Morphology** -- The form, shape or structure of a stream or organism.
**Natural flow** -- The flow past a specified point on a natural stream that is unaffected by stream diversion, storage, import, export, return flow, or change in use caused by modifications in land use.
**Off-channel area** -- Any relatively calm portion of a stream outside of the main flow.
**Outfall** -- The mouth or outlet of a river, stream, lake, drain or sewer.
**Oxbow** -- An abandoned meander in a river or stream, caused by cutoff. Used to describe the U-shaped bend in the river or the land within such a bend of a river.
**Perennial streams** -- Streams which flow continuously.
**Point bar** -- The convex side of a meander bend that is built up due to sediment deposition.
**Pool** -- A reach of stream that is characterized by deep low velocity water and a smooth surface.
**Pool/riffle ratio** -- The ratio of surface area or length of pools to the surface area or length of riffles in a given stream reach; frequently expressed as the relative percentage of each category. Used to describe fish habitat rearing quality.
**Probability of exceedence** -- The probability that a random flood will exceed a specified magnitude in a given period of time.
**Rapids** -- A reach of stream that is characterized by small falls and turbulent high velocity water.
**Reach** -- A section of stream between two defined points.
**Refusal** - A series of rocks placed across the channel, with the top of the rocks at the existing grade of the channel to maintain the channel invert. Used in conjunction with vanes to prevent scour around the end of the vane structures.
**Regime theory** -- A theory of channel formation that applies to streams that make a part of their boundaries from their transported sediment load and a portion of their transported sediment load from their boundaries.
Channels are considered in regime or equilibrium when bank erosion and bank formation are equal.
**Restoration** -- The return of an ecosystem to a close approximation of its condition prior to disturbance.
**Riffle** -- A reach of stream that is characterized by shallow, fast moving water broken by the presence of rocks and boulders.
**Rift** -- A shallow or rocky place in a stream, forming either a ford or a rapid.
**Riparian area** -- An area of land and vegetation adjacent to a stream that has a direct effect on the stream. This includes woodlands, vegetation, and floodplains.
**Riparian buffer** -- The riparian area and vegetation adjacent to streams, lakes, estuaries, or other waterways, which shall be created, established or preserved, and remain protected.
**Riparian habitat** -- The aquatic and terrestrial habitat adjacent to streams, lakes, estuaries, or other waterways.
**Riparian** -- Located on the banks of a stream or other body of water.
**Riparian vegetation** -- The plants that grow adjacent to a wetland area such as a river, stream, reservoir, pond, spring, marsh, bog, meadow, etc., and that rely upon the hydrology of the associated water body.
**Ripple** -- (1) A specific bedform found in sand bed streams. (2) Undulations or waves on the surface of flowing water.
**Riprap** -- Rock or other material with a specific mixture of sizes referred to as a 'gradation', used to stabilize stream or river banks from erosion or to create habitat features in a stream.
**River channels** -- Natural or artificial open conduits which continuously or periodically contain moving water, or which form a connection between two bodies of water.
**River miles** -- Miles from the mouth of a river to a specific destination or, for upstream tributaries, from the confluence with the main river to a specific destination.
**River reach** -- Any defined length of a river.
**River stage** -- The elevation of the water surface at a specified station above some arbitrary zero datum (level).
**Riverine** -- Relating to, formed by, or resembling a river including tributaries, streams, brooks, etc.
**Riverine habitat** -- The aquatic habitat within streams and rivers.
**Rock vane** - In stream structure composed of rocks, constructed for the purpose of reducing shear stress on streambanks and directing flow towards the center of the channel.
**Rock weir** -- A structure designed to serve as grade control and to create a diversity of flow velocities while still maintaining adequate sediment transport capacity.
**Root wad** -- The mass of roots associated with a tree adjacent or in a stream that provides refuge for fish and other aquatic life.
**Run (in stream or river)** -- A reach of stream characterized by fast flowing low turbulence water.
**Runoff** -- Water that flows over the ground and reaches a stream as a result of rainfall or snowmelt.
**Scour** -- The erosive action of running water in streams, which excavates and carries away material from the bed and banks. Scour may occur in both earth and solid rock material and can be classed as general, contraction, or local scour.
**Sediment** -- Soil or mineral material transported by water or wind and deposited in streams or other bodies of water.
**Sedimentation** -- (1) The combined processes of soil erosion, entrainment, transport, deposition, and consolidation. (2) Deposition of sediment.
**Siltation** -- The deposition or accumulation of fine soil particles.
**Sinuosity** -- The ratio of channel length to direct down valley distance. Also may be expressed as the ratio of down valley slope to channel slope.
**Slope** -- The ratio of the change in elevation over distance.
**Slough** -- A shallow backwater inlet that is commonly exposed at low flow or tide.
**Stable channel** -- A stream channel with the right balance of slope, planform and cross-section to transport both the water and sediment load without net long-term bed or bank sediment deposition or erosion throughout the stream segment.
**Stream** -- A general term for a body of flowing water; natural water course containing water at least part of the year. In Hydrology, the term is generally applied to the water flowing in a natural channel as distinct from a canal.
**Stream channel** -- A long narrow depression shaped by the concentrated flow of a stream and covered continuously or periodically by water.
**Stream gradient** -- A general slope or rate of change in vertical elevation per unit of horizontal distance of the bed, water surface, or energy grade of a stream.
**Stream morphology** -- The form and structure of streams.
**Stream order** -- A hydrologic system of stream classification. Each small unbranched tributary is a first order stream. Two first order streams join to make a second order stream. A third order stream has only first and second order tributaries, and so forth.
**Stream reach** -- An individual segment of stream that has beginning and ending points defined by identifiable features such as where a tributary confluence changes the channel character or order.
**Streambank erosion** -- The removal of soil from streambanks by flowing water.
**Streambank stabilization** -- The lining of streambanks with riprap, matting, etc., or other measures intended to control erosion.
**Streambed** -- (1) The unvegetated portion of a channel boundary below the base flow level. (2) The channel through which a natural stream of water runs or used to run, as a dry streambed.
**Stream flow** -- The rate at which water passes a given point in a stream or river, usually expressed in cubic feet per second (cfs).
**Substrate** -- (1) The composition of a streambed, including either mineral or organic materials. (2) Material that forms an attachment media for organisms.
**Surface erosion** -- The detachment and transport of soil particles by wind, water, or gravity. Or a groups of processes whereby soil materials are removed by running water, waves and currents, moving ice, or wind.
**Surface water** -- All waters whose surface is naturally exposed to the atmosphere, for example, rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc., and all springs, wells,
or other collectors directly influenced by surface water.
**Suspended sediment** -- Sediment suspended in a fluid by the upward components of turbulent currents, moving ice, or wind.
**Suspended sediment load** -- That portion of a stream's total sediment load which is transported within the body of water and has very little contact the stream bed.
**Tailwater** -- (1) The area immediately downstream of a reservoir. (2) Applied irrigation water that runs off the end of a field.
**Thalweg** -- (1) The lowest thread along the axial part of a valley or stream channel. (2) A subsurface, ground-water stream percolating beneath and in the general direction of a surface stream course or valley. (3) The middle, chief, or deepest part of a navigable channel or waterway.
**Torrent** -- (1) A turbulent, swift-flowing stream. (2) A heavy downpour; a deluge.
**Tractive force** - -The drag on a stream bed or bank caused by passing water which tends to pull soil particles along with the stream flow.
**Tree revetment** - Installation of trees attached to each other along the streambank to trap sediment, provide habitat diversity and protect the bank.
**Tributary** -- A stream that flows into another stream, river, or lake.
**Turbidity** -- A measure of the content of suspended matter that interferes with the passage of light through the water or in which visual depth is restricted. Suspended sediments are only one component of turbidity.
**Waterfall** -- A sudden, nearly vertical drop in a stream, as it flows over rock.
**Watershed** -- An area of land that's total surface drainage flows to a single point in a stream.
**Watershed management** -- The analysis, protection, development, operation or maintenance of the land, vegetation and water resources of a drainage basin for the conservation of all its resources for the benefit of its residents.
**Watershed restoration** -- Improving current conditions of watersheds to restore degraded fish habitat and provide long-term protection to aquatic and riparian resources.
**Wattles** - Bunches of dormant branch cuttings bound together in cylindrical bundles and embedded in streambanks.
**Wetted perimeter** -- The length of the wetted contact between a stream of flowing water and the stream bottom in a vertical plane at right angles to the direction of flow.
**Whips** - Any dormant woody branch cutting (usually flexible) with a diameter of less than 3 inches.
**Woody debris** -- Referring to wood in streams.

Dufresne-Henry

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**STORMWATER GLOSSARY**

PLOT DATE: 06/06/2003
DRAWN BY: MBL
CHECKED BY: WCH
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# STATE OF VERMONT
# AGENCY OF TRANSPORTATION

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138. **EROSION CONTROL PLAN - PHASE III**
139.–140. **EROSION CONTROL DETAILS**


BEGINNING AT A POINT APPROXIMATELY 1142.90 METERS WEST OF THE ENOSBURG-BERKSHIRE TOWN LINE AND EXTENDING EASTERLY 397.47 METERS

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES REPLACEMENT OF BRIDGE # 26 OVER THE TROUT RIVER AND NECESSARY ROADWAY APPROACHES INCLUDING A NEW INTERSECTION FOR ACCESS TO T.H. #42

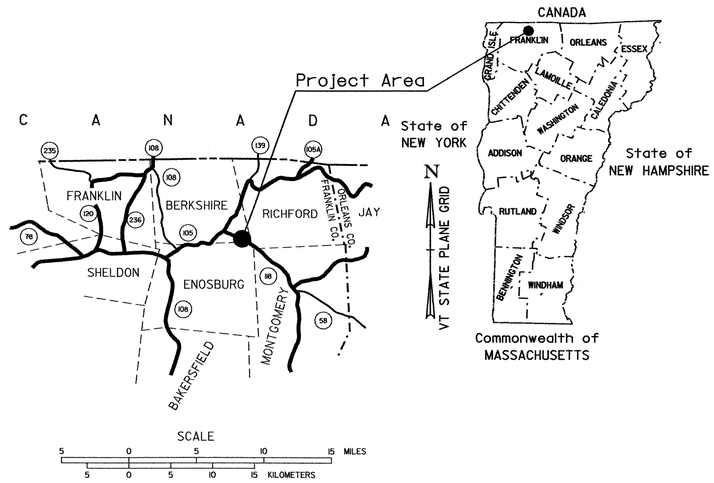
LENGTH OF STRUCTURE 45.40 METERS
LENGTH OF ROADWAY 352.07 METERS
LENGTH OF PROJECT 397.47 METERS

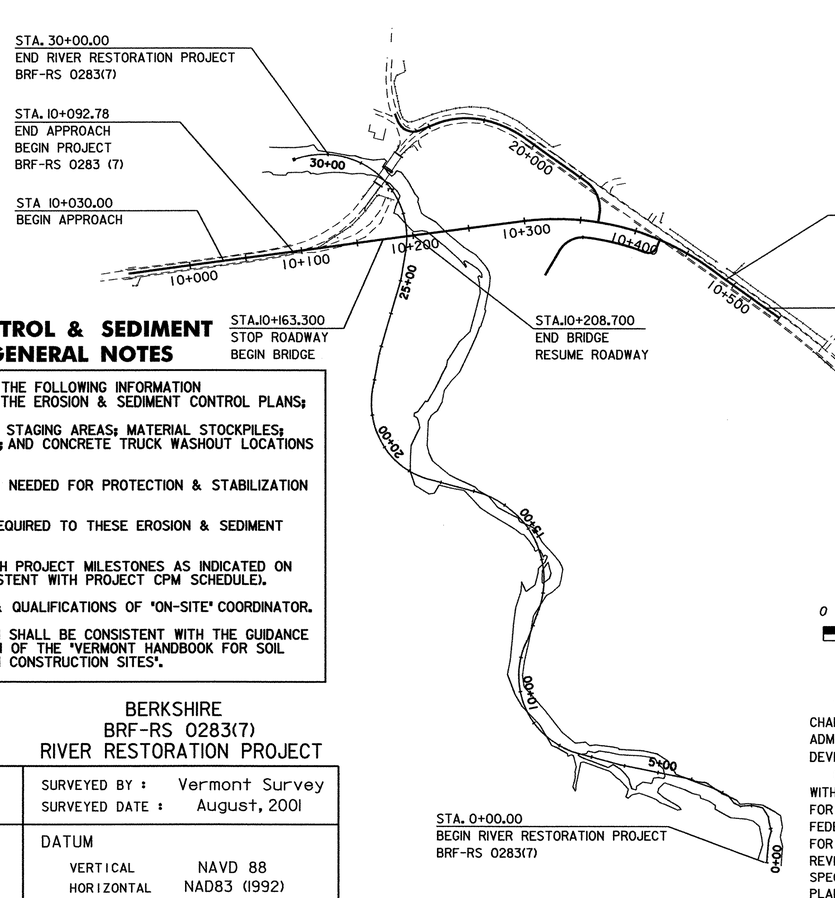
BEGINNING AT A POINT APPROXIMATELY 350 FEET DOWNSTREAM OF EXISTING BRIDGE #26 AND EXTENDING UPSTREAM 3190 FEET.

WORK TO BE PERFORMED UNDER THE RIVER RESTORATION PORTION OF THIS PROJECT INCLUDES STABILIZATION OF THE TROUT RIVER AND ESTABLISHMENT OF A RIPARIAN BUFFER ZONE.

LENGTH OF RIVER RESTORATION PROJECT 3190 FEET

# PROPOSED IMPROVEMENT
# TOWN OF BERKSHIRE
# COUNTY OF FRANKLIN
# VERMONT ROUTE 118 (F.A.S.)




| TRAFFIC DATA | |
|---|---|
| 1997 ADT = 1760 | 2017 ADT = 2390 |
| DHV = 245 | DHV = 335 |
| ADTT = 130 | ADTT = 150 |
| % T = 5 | % T = 5 |
| % D = 56 | |
| V = 80 km/h | |
| 1997-2017(20YR) 18 K ESAL = 1,759,000 | |
| FUNCTIONAL CLASSIFICATION : MAJOR COLLECTOR | |

## EROSION CONTROL & SEDIMENT CONTROL GENERAL NOTES

THE CONTRACTOR SHALL PROVIDE THE FOLLOWING INFORMATION FOR APPROVAL AND INCLUSION IN THE EROSION & SEDIMENT CONTROL PLANS;

LOCATION OF WASTE, BORROW, AND STAGING AREAS; MATERIAL STOCKPILES; REFUELING & MAINTENANCE AREAS; AND CONCRETE TRUCK WASHOUT LOCATIONS ( ATTACH A MAP IF NECESSARY).

DISCUSSION & ADDITIONAL DETAILS NEEDED FOR PROTECTION & STABILIZATION OF THE SITES LISTED ABOVE.

PROPOSED MODIFICATIONS IF/AS REQUIRED TO THESE EROSION & SEDIMENT CONTROL PLANS.

PROPOSED DATED ASSOCIATED WITH PROJECT MILESTONES AS INDICATED ON THE SEQUENCE OF EVENTS (CONSISTENT WITH PROJECT CPM SCHEDULE).

NAMES, PHONE NUMBER, ADDRESS, & QUALIFICATIONS OF "ON-SITE" COORDINATOR.

THE ABOVE REQUIRED INFORMATION SHALL BE CONSISTENT WITH THE GUIDANCE PROVIDED IN THE LATEST REVISION OF THE "VERMONT HANDBOOK FOR SOIL EROSION & SEDIMENT CONTROL ON CONSTRUCTION SITES".

## CONVENTIONAL SYMBOLS

COUNTY LINE
TOWN LINE
LIMITS OF ACCESS
POINT OF ACCESS
FENCE LINE
STONE WALL
TRAVELED WAY
GUARD RAIL
RAILROAD
SURVEY LINE
CULVERT
POWER POLE
TELEPHONE POLE
TREES
CONTROL OF ACCESS
PROPERTY LINE
R.O.W. TAKING LINE
SLOPE RIGHTS
TOP OF CUT
TOE OF SLOPE

| BERKSHIRE BRF-RS 0283(7) BRIDGE PROJECT | |
|---|---|
| SURVEYED BY : | R. Hayes |
| SURVEYED DATE : | 1985 |
| DATUM | |
| VERTICAL | NGVD 1929 |
| HORIZONTAL | N/A |

| BERKSHIRE BRF-RS 0283(7) RIVER RESTORATION PROJECT | |
|---|---|
| SURVEYED BY : | Vermont Survey |
| SURVEYED DATE : | August, 2001 |
| DATUM | |
| VERTICAL | NAVD 88 |
| HORIZONTAL | NAD83 (1992) |

0 100 200 300
SCALE IN METERS
( 1:2500 )

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROJECT DEVELOPMENT.

CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JANUARY 4, 2001 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

# EROSION & SEDIMENT CONTROL PLANS

VAOT Metric

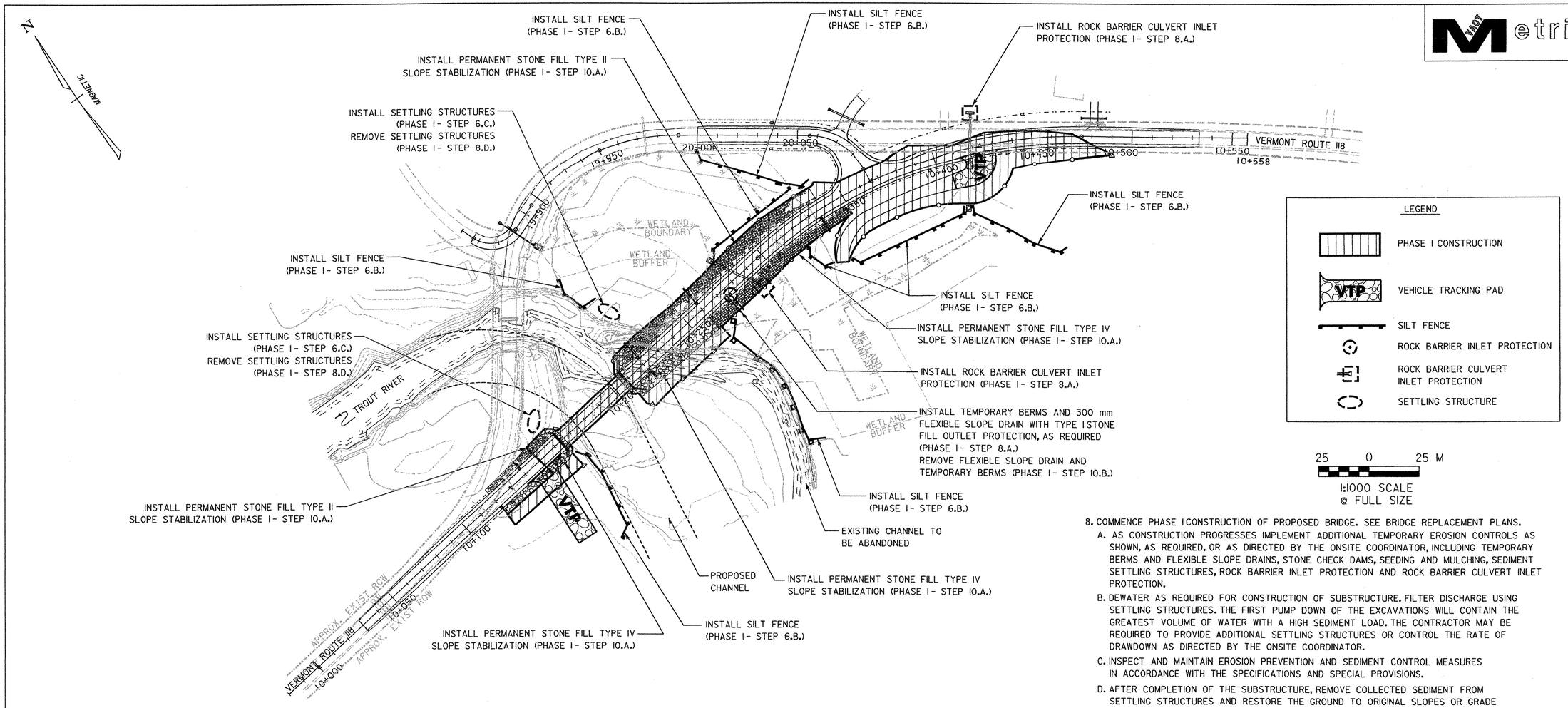
UNLESS NOTED OTHERWISE
STATIONS ARE IN KILOMETERS
ELEVATIONS ARE IN METERS
DIMENSIONS ARE IN MILLIMETERS

DIRECTOR OF PROJECT DEVELOPMENT
APPROVED _____ DATE _____

PROJECT MANAGER :

PROJECT NAME : BERKSHIRE
PROJECT NUMBER : BRF-RS 0283(7)

SHEET 135 OF 140 SHEETS




1. CONSTRUCT TWO (2) VEHICLE TRACKING PADS AS SHOWN. SEE CONSTRUCTION SITE PLAN FOR DETAILS. *SEE DETAIL ON SHEET 110.*

2. DELINEATE BOUNDARIES OF EXISTING VEGETATED RIPARIAN BUFFER ZONES AND WETLANDS TO REMAIN UNDISTURBED (FOR THE ENTIRE PROJECT SITE) USING ORANGE SNOW FENCE, AS DIRECTED BY THE ONSITE COORDINATOR, AND AS SHOWN ON THE CONSTRUCTION PLANS AND THE PLANTING PLAN.

3. ESTABLISH AND DELINEATE LOCATIONS OF TOPSOIL STOCKPILES, STAGING AREAS, EQUIPMENT AND MATERIAL STORAGE AREAS, AND REFUELING AND MAINTENANCE AREAS USING ORANGE SNOW FENCE, AS APPROVED BY THE ENGINEER, THE ONSITE COORDINATOR AND THE DISTRICT #6 ACT 250 COMMISSIONER. VEHICLE AND EQUIPMENT STORAGE AREAS OR AREAS ADJACENT TO CONSTRUCTION TRAILER OR OTHER HIGH TRAFFIC AREAS WILL BE COVERED WITH GEOTEXTILE FABRIC AND 300 mm OF GRAVEL. FOLLOWING COMPLETION OF CONSTRUCTION, ALL NON-NATIVE MATERIALS WILL BE REMOVED FROM THE STAGING AREA. ERODIBLE MATERIALS STOCKPILED WITHIN THE MATERIAL STORAGE AREAS WILL BE ISOLATED WITH FILTER FABRIC. SOIL STOCKPILED ON THE SITE WILL BE SEEDED AND MULCHED.

4. CLEAR THE SITE AS REQUIRED FOR THE RIVER RESTORATION PORTION OF THE PROJECT AND PHASE I OF THE BRIDGE REPLACEMENT PORTION OF THE PROJECT. STAGING AREAS SHALL BE CLEARED BUT NOT GRUBBED. TREES AND BRUSH SHALL BE CUT AS CLOSE TO GRADE AS POSSIBLE, BUT NOT STUMPED.

## EROSION PREVENTION AND SEDIMENT CONTROL - PHASE I

5. COMMENCE RIVER RESTORATION CONSTRUCTION AND COMPLETE RIVER RESTORATION CONSTRUCTION SEQUENCE PHASE I- STEPS 2 THROUGH 6. SEE RIVER RESTORATION CONSTRUCTION SEQUENCE PLAN.

6. INSTALL PHASE I TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, AS SHOWN, AS REQUIRED, OR AS DIRECTED BY THE ONSITE COORDINATOR, IN THE FOLLOWING ORDER:

   A. DIVERSION STRUCTURES (DIVERSION DIKES OR CHANNELS).

   B. FILTER BARRIERS (SILT FENCE OR GEOSYNTHETIC BARRIERS - SEE EROSION CONTROL DETAIL SHEETS FOR CONSTRUCTION NOTES AND DETAILS).

   C. SETTLING STRUCTURES (SINGLE CHAMBER TEMPORARY SEDIMENT TRAPS OR SEDIMENT CONTAINMENT FILTER BAGS - SEE EROSION CONTROL DETAIL SHEETS FOR CONSTRUCTION NOTES AND DETAILS).

7. GRUB THE PHASE I SITE. STUMPS, EXCESS SOILS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF IN A LOCATION APPROVED BY THE ONSITE COORDINATOR, THE AGENCY OF NATURAL RESOURCES, THE VTRANS BIOLOGIST AND THE VTRANS ARCHEOLOGIST.

8. COMMENCE PHASE I CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS.
   A. AS CONSTRUCTION PROGRESSES IMPLEMENT ADDITIONAL TEMPORARY EROSION CONTROLS AS SHOWN, AS REQUIRED, OR AS DIRECTED BY THE ONSITE COORDINATOR, INCLUDING TEMPORARY BERMS AND FLEXIBLE SLOPE DRAINS, STONE CHECK DAMS, SEEDING AND MULCHING, SEDIMENT SETTLING STRUCTURES, ROCK BARRIER INLET PROTECTION AND ROCK BARRIER CULVERT INLET PROTECTION.
   B. DEWATER AS REQUIRED FOR CONSTRUCTION OF SUBSTRUCTURE. FILTER DISCHARGE USING SETTLING STRUCTURES. THE FIRST PUMP DOWN OF THE EXCAVATIONS WILL CONTAIN THE GREATEST VOLUME OF WATER WITH A HIGH SEDIMENT LOAD. THE CONTRACTOR MAY BE REQUIRED TO PROVIDE ADDITIONAL SETTLING STRUCTURES OR CONTROL THE RATE OF DRAWDOWN AS DIRECTED BY THE ONSITE COORDINATOR.
   C. INSPECT AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE SPECIFICATIONS AND SPECIAL PROVISIONS.
   D. AFTER COMPLETION OF THE SUBSTRUCTURE, REMOVE COLLECTED SEDIMENT FROM SETTLING STRUCTURES AND RESTORE THE GROUND TO ORIGINAL SLOPES OR GRADE AS SHOWN ON THE CONSTRUCTION DRAWINGS.
   E. DISPOSE OF COLLECTED SEDIMENT AND OTHER POLLUTANTS IN A MANNER APPROVED BY THE ONSITE COORDINATOR THAT WILL NOT RESULT IN SEDIMENTS AND POLLUTANTS ENTERING WATERS OF THE STATE.

9. COMPLETE RIVER RESTORATION CONSTRUCTION SEQUENCE PHASE I- STEP 9 AND STEP 10.

10. COMPLETE PHASE I CONSTRUCTION OF THE PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS.

   A. PERMANENTLY AND IMMEDIATELY STABILIZE ALL FINISHED GRADES AS EARTHWORK IS COMPLETED INCLUDING CHANNEL LININGS, SEEDING AND MULCHING (PERMANENT TURF ESTABLISHMENT) AND PERMANENT STONE FILL FOR SLOPE STABILIZATION.

   B. REMOVE TEMPORARY BERMS AND FLEXIBLE SLOPE DRAIN FOLLOWING COMPLETION OF PERMANENT STONE FILL FOR SLOPE STABILIZATION, AS SHOWN.

11. AN ALTERNATE EROSION PREVENTION AND SEDIMENT CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR (PRIOR TO THE START OF CONSTRUCTION) FOR APPROVAL BY THE ENGINEER. THE VTRANS DIRECTOR OF PROGRAM DEVELOPMENT AND THE AGENCY OF NATURAL RESOURCES. IF AN ALTERNATE PLAN IS SUBMITTED, CONSTRUCTION WILL NOT BE ALLOWED UNTIL WRITTEN APPROVAL IS OBTAINED FROM ALL AFOREMENTIONED ENTITIES.

12. FOR ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL NOTES SEE EROSION CONTROL PLAN 4.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283 (7)

FILE NAME: ...\02837ESC1.ptf
PROJECT LEADER: GAE
DESIGNED BY: SAR
PLOT DATE: 08/26/2003
DRAWN BY: PZA
CHECKED BY: WCH
**EROSION CONTROL PLAN 1**
SHEET 136 OF 140

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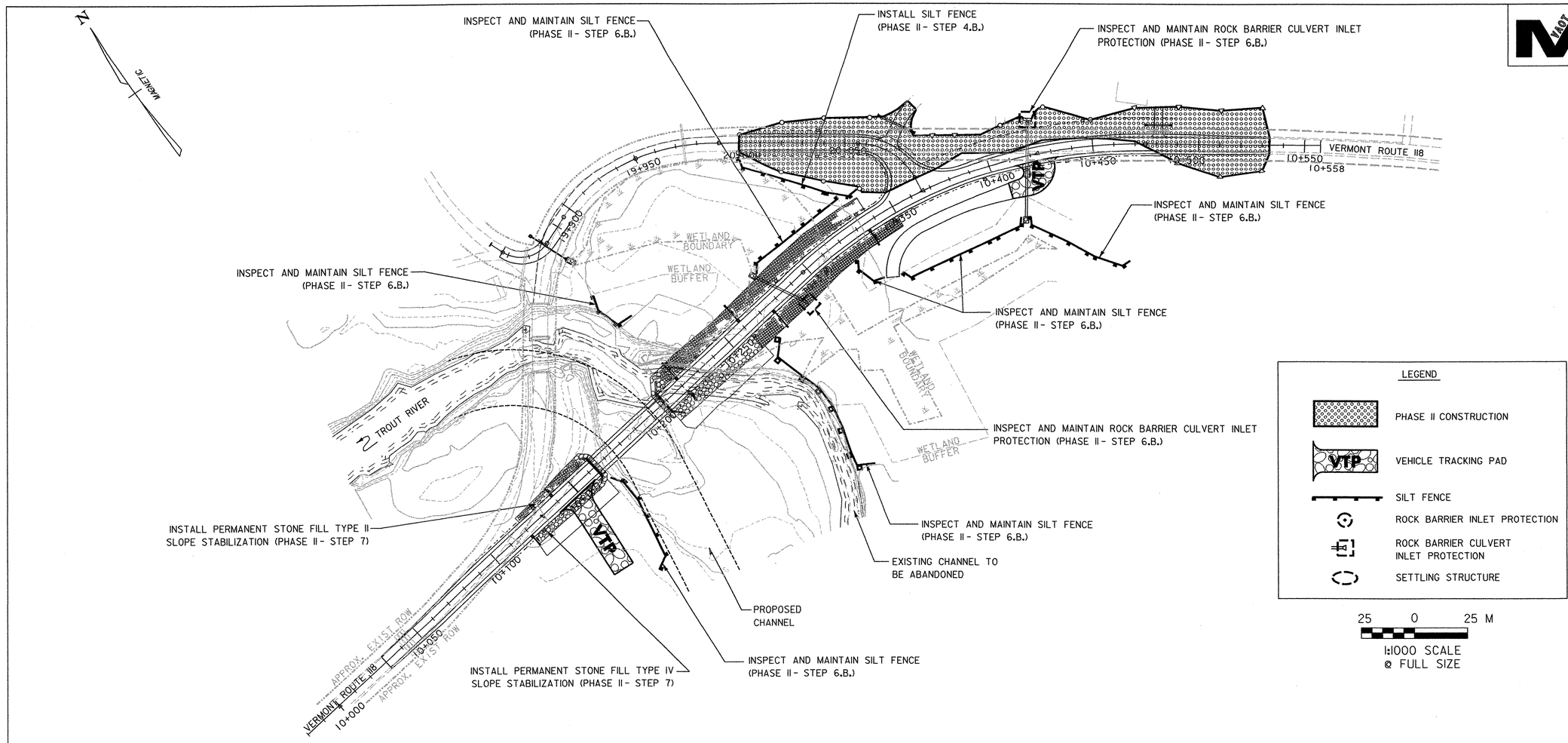



## EROSION PREVENTION AND SEDIMENT CONTROL – PHASE II

1. AN ALTERNATE EROSION PREVENTION AND SEDIMENT CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR (PRIOR TO THE START OF CONSTRUCTION) FOR APPROVAL BY THE ENGINEER, THE VTRANS DIRECTOR OF PROGRAM DEVELOPMENT AND THE AGENCY OF NATURAL RESOURCES. IF AN ALTERNATE PLAN IS SUBMITTED, CONSTRUCTION WILL NOT BE ALLOWED UNTIL WRITTEN APPROVAL IS OBTAINED FROM ALL AFOREMENTIONED ENTITIES.

2. TRANSFER TRAFFIC TO PROPOSED BRIDGE AND COMMENCE PHASE II CONSTRUCTION. SEE THE TRAFFIC CONTROL PLANS FOR LIMITS AND DETAILS OF PHASE II WORK.

3. CLEAR THE SITE AS REQUIRED FOR PHASE II AND PHASE III OF THE BRIDGE REPLACEMENT PORTION OF THE PROJECT.

4. INSTALL PHASE II TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, AS SHOWN, AS REQUIRED, OR AS DIRECTED BY THE ONSITE COORDINATOR, IN THE FOLLOWING ORDER:

   A. DIVERSION STRUCTURES (DIVERSION DIKES OR CHANNELS).

   B. FILTER BARRIERS (SILT FENCE OR GEOSYNTHETIC BARRIERS - SEE EROSION CONTROL DETAIL SHEETS FOR CONSTRUCTION NOTES AND DETAILS).

5. GRUB THE PHASE II SITE. STUMPS, EXCESS SOILS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF IN A LOCATION APPROVED BY THE ONSITE COORDINATOR, THE AGENCY OF NATURAL RESOURCES, THE VTRANS BIOLOGIST AND THE VTRANS ARCHEOLOGIST.

6. COMPLETE PHASE II CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS.

   A. AS CONSTRUCTION PROGRESSES IMPLEMENT ADDITIONAL TEMPORARY EROSION CONTROLS AS SHOWN, AS REQUIRED, OR AS DIRECTED BY THE ONSITE COORDINATOR, INCLUDING TEMPORARY BERMS AND FLEXIBLE SLOPE DRAINS, STONE CHECK DAMS, SEEDING AND MULCHING, SEDIMENT SETTLING STRUCTURES, ROCK BARRIER INLET PROTECTION AND ROCK BARRIER CULVERT INLET PROTECTION.

   B. INSPECT AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE SPECIFICATIONS AND SPECIAL PROVISIONS.

   C. DISPOSE OF COLLECTED SEDIMENT AND OTHER POLLUTANTS IN A MANNER APPROVED BY THE ENGINEER THAT WILL NOT RESULT IN SEDIMENTS AND POLLUTANTS ENTERING WATERS OF THE STATE.

7. PERMANENTLY AND IMMEDIATELY STABILIZE ALL FINISHED GRADES AS EARTHWORK IS COMPLETED INCLUDING CHANNEL LININGS, SEEDING AND MULCHING (PERMANENT TURF ESTABLISHMENT) AND PERMANENT STONE FILL FOR SLOPE STABILIZATION.

8. FOR ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL NOTES SEE EROSION CONTROL PLAN 4.

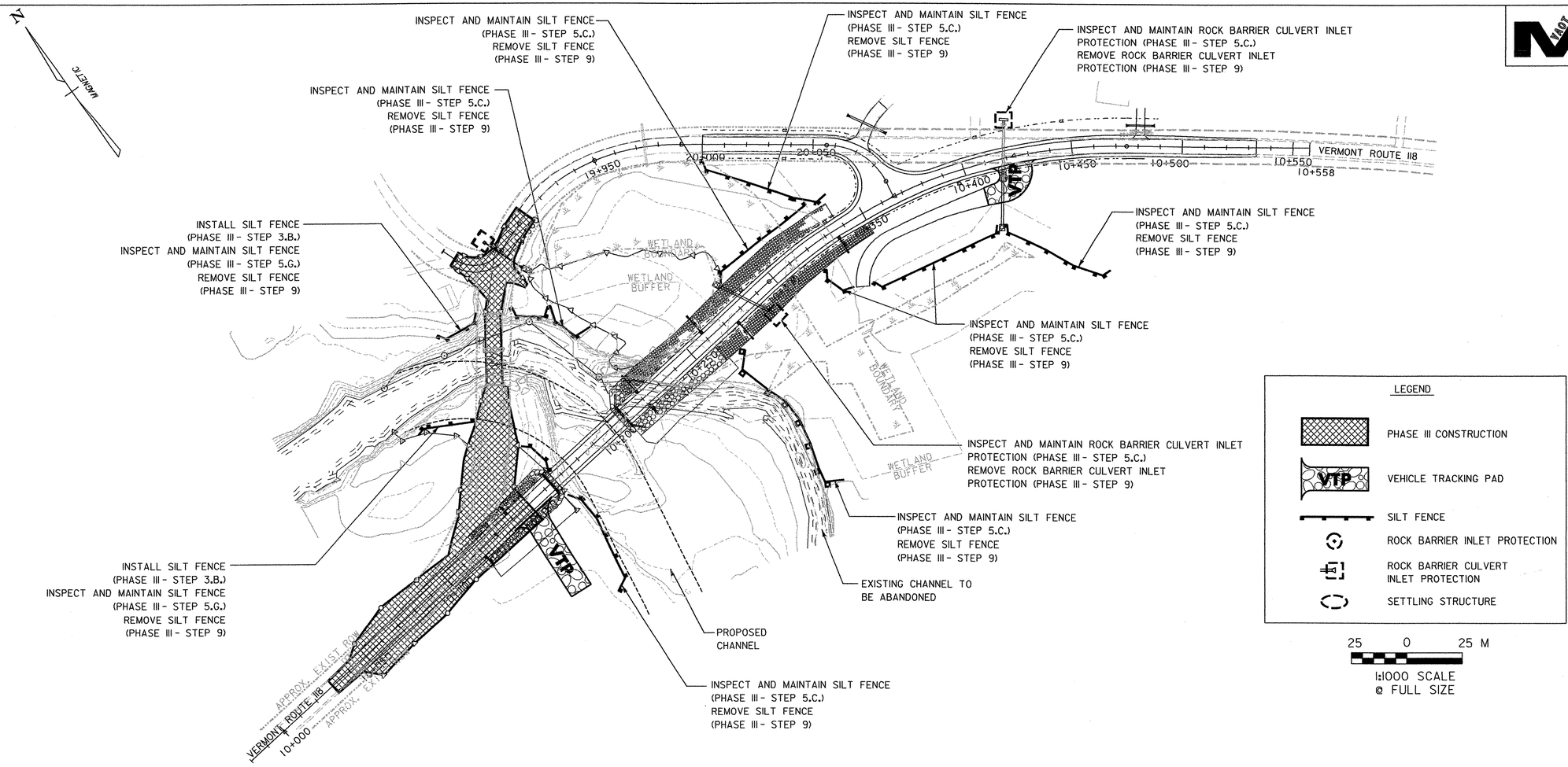
Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283 (7)

FILE NAME: ...\02837ESC2.p+f
PROJECT LEADER: GAE
DESIGNED BY: SAR
**EROSION CONTROL PLAN 2**

PLOT DATE: 08/26/2003
DRAWN BY: PZA
CHECKED BY: WCH
SHEET 137 OF 140

...\Plot Files\02837ESC2.plt 08/26/2003 08:30:08 AM




## EROSION PREVENTION AND SEDIMENT CONTROL - PHASE III

1. AN ALTERNATE EROSION PREVENTION AND SEDIMENT CONTROL PLAN MAY BE SUBMITTED BY THE CONTRACTOR (PRIOR TO THE START OF CONSTRUCTION) FOR APPROVAL BY THE ENGINEER, THE VTRANS DIRECTOR OF PROGRAM DEVELOPMENT AND THE AGENCY OF NATURAL RESOURCES. IF AN ALTERNATE PLAN IS SUBMITTED, CONSTRUCTION WILL NOT BE ALLOWED UNTIL WRITTEN APPROVAL IS OBTAINED FROM ALL AFOREMENTIONED ENTITIES.

2. TRANSFER TRAFFIC AND COMMENCE PHASE III CONSTRUCTION. SEE THE TRAFFIC CONTROL PLANS FOR LIMITS AND DETAILS OF PHASE III WORK.

3. INSTALL PHASE III TEMPORARY EROSION PREVENTION AND SEDIMENT CONTROL MEASURES, AS SHOWN, AS REQUIRED, OR AS DIRECTED BY THE ONSITE COORDINATOR, IN THE FOLLOWING ORDER:

   A. DIVERSION STRUCTURES (DIVERSION DIKES OR CHANNELS).

   B. FILTER BARRIERS (SILT FENCE OR GEOSYNTHETIC BARRIERS - SEE EROSION CONTROL DETAIL SHEETS FOR CONSTRUCTION NOTES AND DETAILS).

   C. SETTLING STRUCTURES (SINGLE CHAMBER TEMPORARY SEDIMENT TRAPS OR SEDIMENT CONTAINMENT FILTER BAGS - SEE EROSION CONTROL DETAIL SHEETS FOR CONSTRUCTION NOTES AND DETAILS).

4. GRUB THE PHASE III SITE. STUMPS, EXCESS SOILS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF IN A LOCATION APPROVED BY THE ONSITE COORDINATOR, THE AGENCY OF NATURAL RESOURCES, THE VTRANS BIOLOGIST AND THE VTRANS ARCHEOLOGIST.

5. COMPLETE PHASE III CONSTRUCTION OF PROPOSED BRIDGE. SEE BRIDGE REPLACEMENT PLANS.

   A. AS CONSTRUCTION PROGRESSES IMPLEMENT ADDITIONAL TEMPORARY EROSION CONTROLS AS SHOWN, AS REQUIRED, OR AS DIRECTED BY THE ONSITE COORDINATOR, INCLUDING TEMPORARY BERMS AND FLEXIBLE SLOPE DRAINS, STONE CHECK DAMS, SEEDING AND MULCHING, SEDIMENT SETTLING STRUCTURES, ROCK BARRIER INLET PROTECTION AND ROCK BARRIER CULVERT INLET PROTECTION.

   B. DEWATER AS REQUIRED. FILTER DISCHARGE USING SETTLING STRUCTURES.

   C. INSPECT AND MAINTAIN EROSION PREVENTION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE SPECIFICATIONS AND SPECIAL PROVISIONS.

   D. DISPOSE OF COLLECTED SEDIMENT AND OTHER POLLUTANTS IN A MANNER APPROVED BY THE ENGINEER THAT WILL NOT RESULT IN SEDIMENTS AND POLLUTANTS ENTERING WATERS OF THE STATE.

6. COMPLETE RIVER RESTORATION CONSTRUCTION SEQUENCE PHASE II - STEP 3 THROUGH STEP 6. SEE RIVER RESTORATION CONSTRUCTION SEQUENCE PLAN.

7. PERMANENTLY AND IMMEDIATELY STABILIZE ALL FINISHED GRADES AS EARTHWORK IS COMPLETED INCLUDING CHANNEL LININGS, SEEDING AND MULCHING (PERMANENT TURF ESTABLISHMENT) AND PERMANENT STONE FILL FOR SLOPE STABILIZATION.

8. UPON COMPLETION OF ALL EARTHWORK (FINAL GRADING):

   A. ANY ACCESS ROAD, PARKING AREA OR TRAIL USED FOR CONSTRUCTION ACCESS, MATERIAL STOCKPILING, WORKING AREAS OR OTHER CONSTRUCTION RELATED ACTIVITIES SHALL BE ROTOTILLED (IF REQUIRED) TO REVERSE COMPACTION AND RETURNED TO ORIGINAL OR BETTER CONDITION.

   B. COMPLETE FINAL STABILIZATION OF THE SITE, INCLUDING CHANNEL LININGS, SEEDING AND MULCHING (PERMANENT TURF ESTABLISHMENT), CHECK DAMS AND OUTLET PROTECTION.

9. REMOVE ALL TEMPORARY MEASURES UPON PROJECT COMPLETION OR FINAL SITE STABILIZATION AS APPROVED BY THE ENGINEER, WHICHEVER OCCURS LAST, AND STABILIZE ANY AREAS DISTURBED BY THE REMOVAL OF THE TEMPORARY MEASURES.

10. FOR ADDITIONAL EROSION PREVENTION AND SEDIMENT CONTROL NOTES SEE EROSION CONTROL PLAN 4.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283 (7)

FILE NAME: ...\02837ESC3.p+f
PROJECT LEADER: GAE
DESIGNED BY: SAR
**EROSION CONTROL PLAN 3**

PLOT DATE: 08/26/2003
DRAWN BY: PZA
CHECKED BY: WCH
SHEET 138 OF 140

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# EROSION PREVENTION AND SEDIMENT CONTROL PLAN GENERAL NOTES

## 1. CONTRACTOR'S RESPONSIBILITIES FOR EROSION PREVENTION AND SEDIMENT CONTROL

a. Prevent or minimize soil erosion of disturbed land and prevent the discharge of sediment and other construction related pollutants to waters of the State.
b. Furnish, install, inspect and maintain erosion and sediment control materials in conjunction with the general clearing, grading and excavation of the site.
c. Establish limits of soil disturbance; location(s) of topsoil stockpiles; construction staging areas; storage areas; refueling and maintenance areas.
d. Establish and mark boundaries for any undisturbed riparian buffer zones and maintain all existing streams and riparian buffer zones in their natural condition.
e. Locate areas for disposal of stumps, excess soils and collected sediment and other pollutants, and dispose of these materials in a manner that will not result in sediments and pollutants entering waters of the State.
f. Sequence construction activities to minimize the extent of disturbed soils left open to erosion at any given time as detailed in the construction phasing and erosion and sediment control plans.
g. Avoid all land disturbances within 50 feet of all water bodies, measured from the top of bank, and wetlands, except where necessary for the reconstruction of existing roads and the construction of bridges, stream crossings, and components of stormwater management systems which by necessity must be located in this zone.
h. Maintain and preserve to the extent possible the site's natural drainage ways that convey stormwater to streams, rivers, lakes, ponds and wetlands.
i. Prevent off-site stormwater from entering areas of disturbed soil on-site.
j. Prevent the off-site discharge of sediment mobilized on the construction site, including off-site tracking of sediment onto paved public or private roadways by construction vehicles.
k. Dispose of sediments and other pollutants which have been collected and removed in the course of stormwater treatment in a manner that will not result in the sediments and pollutants entering waters of the State. Disposal sites require relatively level terrain with an isolation distance of at least 100 feet from any surface waters, including wetlands.

## 2. LIMITATIONS AND PROHIBITIONS

a. The contractor shall schedule earthwork completion, site stabilization, establishment of perennial cover and installation of non-vegetative protection measures no later than October 15. To assure establishment of vegetated cover, seeding and mulching activities shall be completed by September 15.

   For projects extending beyond October 15, limit exposure of soils and minimize additional earthworks. Any proposed soil disturbance and earthworks between October 15 and May 1 will require development of a special winter erosion and sediment control plan addressing the specific concerns of winter construction. This plan must be filed with, and approved by, the permitting authority by September 15. If it is determined by the engineer or the permitting authority that winter construction would present a significant risk to water quality, the contractor will need to request a winter shutdown in accordance with the provisions of the contract documents.
b. Discharges of any material other than stormwater, such as vehicle and equipment maintenance spills, fuels, wash water, construction debris, oil, wet concrete (including washout water from concrete batch trucks or equipment used to mix concrete), and other substances, are prohibited.
c. No silt fence shall be utilized in areas of concentrated flows, such as channels or ditches.
d. Disposal of sediment in a wetland or any corrective action undertaken to remove sediment from a wetland is prohibited.
e. The failure to promptly abate the discharge of sediment or any other waste which causes a visible discoloration of surface waters (including wetlands), or is found to be exceeding water quality standards based on monitoring, is prohibited.

## 3. GENERAL CONSTRUCTION NOTES

a. See Erosion Control Plan 1 through Erosion Control Plan 3 for construction notes and phasing.
b. Vehicle and equipment storage areas or areas adjacent to construction trailer or other high traffic areas shall be covered with geotextile fabric and 12 inches of gravel. Following completion of construction, all non-native materials shall be removed from the staging area. Compacted, rutted, or otherwise disturbed soils shall be tilled, raked, seeded and mulched.
c. Erodible materials stockpiled within the material storage areas shall be isolated with filter fabric. Soil stockpiled on the site shall be seeded and mulched.
d. All disturbed areas shall be seeded and mulched within 24 hours of being stripped or backfilled and graded.
e. Stockpiles shall be mulched if they will be undisturbed for more than 24 hours.

## 4. INSPECTION

a. The onsite coordinator shall inspect all erosion and sediment control structures and measures, at least once every seven (7) calendar days and no later than 24 hours after any storm event which generates a discharge of stormwater runoff from the construction site, to ensure they are operating correctly.
b. The onsite coordinator shall inspect any sites that have been temporarily or finally stabilized a minimum of once a month.
c. The contractor shall inspect channel linings, embankments and channel beds daily for any sign of erosion.
d. The contractor shall inspect discharge points daily to visually assess whether erosion control measures are effective in preventing impacts to receiving waters.
e. In the case of soil disturbance or earthwork occurring over the winter period (Oct. 15 to May 1), daily monitoring of all erosion prevention, sediment control and construction activities shall be required in areas where such soil disturbance, earthwork or activities are ongoing. In areas that have been shut down for the winter, the onsite coordinator shall inspect erosion prevention and sediment control devices in the field monthly, no later than 24 hours after any storm event which generates a discharge of stormwater runoff from the construction site, or during a thaw.
   The contractor shall be directed to make repairs or install additional measures as necessary.
f. The onsite coordinator and the contractor shall inspect for the evidence of, or the potential for, sediment leaving from all disturbed areas or material storage areas.
g. An Erosion and Sediment Control Monitoring Report form completed by the onsite coordinator stating the date of review and describing the erosion and sediment control and stormwater management measures reviewed, the effectiveness of their operation, any deficiencies, and corrective action to be undertaken shall be prepared after each review. A copy shall be provided to the engineer and maintained on file at the project site.

## 5. MAINTENANCE

a. The contractor shall keep all seeded areas watered and in good condition, re-seeding if and when necessary until a good, healthy, uniform growth is established over the entire area seeded.
b. The contractor shall repair all erosion and sediment control structures and measures that are determined to be failing, or not functioning as designed, within 24 hours of inspection.
c. The contractor shall remove accumulated sediment from containment systems and other sediment control structures as required, such that performance of these systems is not compromised or in any way impaired.
d. The contractor shall remove all debris and repair all damages caused by soil erosion or construction equipment at or before the end of each working day.

## 6. CORRECTIVE ACTION

a. The contractor shall notify the resident engineer as soon as possible, but within 24 hours, of any evidence of measurable amounts of sediment or sediment-laden water leaving the construction site or any visible discoloration of surface waters (including wetlands).
b. The contractor shall take immediate action to correct the discharge, including halting or reducing construction activities as necessary until the discharge and/or the condition is fully corrected.

Dufresne-Henry

PROJECT NAME: TROUT RIVER RESTORATION
PROJECT NUMBER: BRF-RS 0283(7)

FILE NAME: Erosion ControlDetails.dgn PLOT DATE: 08/27/2003
DESIGN SUPERVISOR: GAE DRAWN BY: MBL
DESIGNED BY: SAR CHECKED BY: WCH
**EROSION CONTROL PLAN 4** SHEET 139a OF 140

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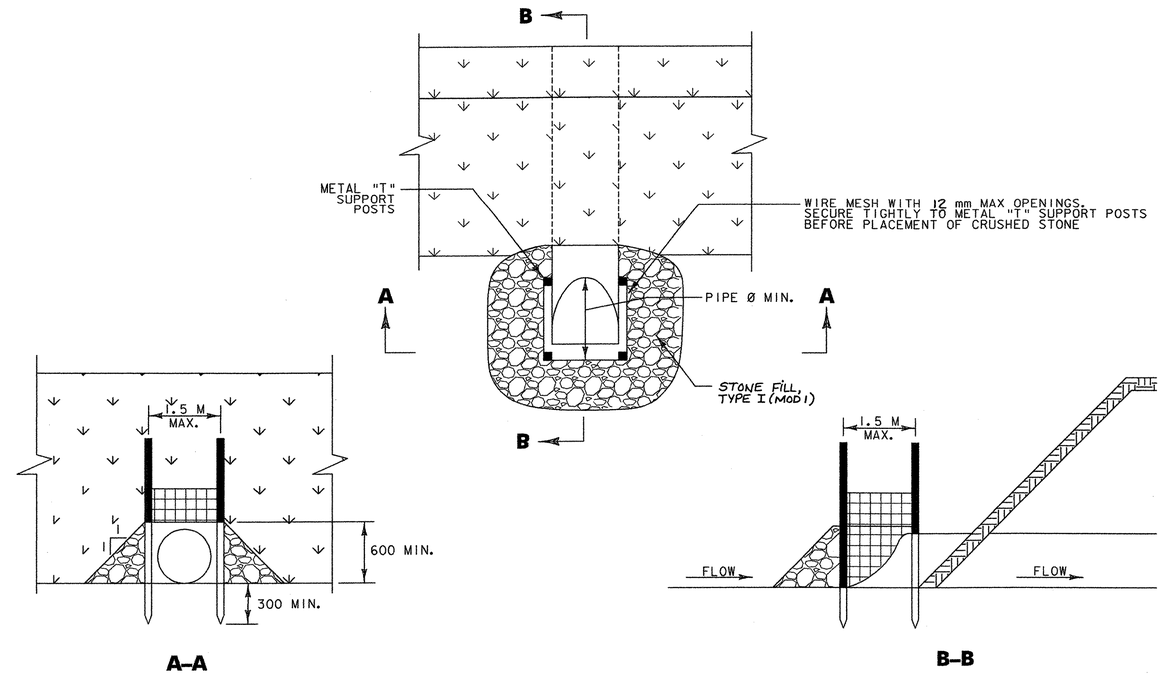
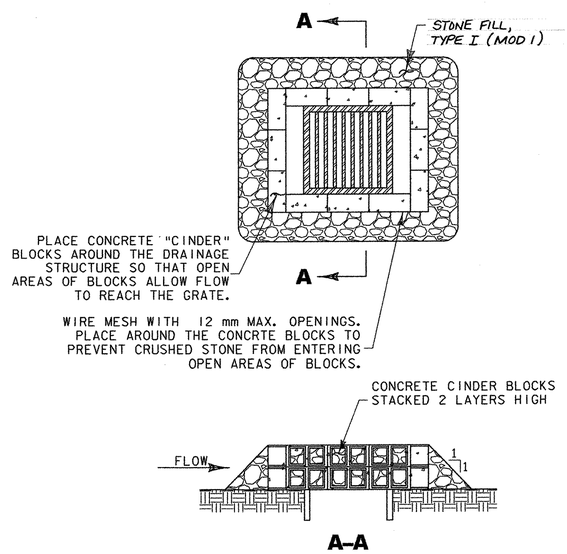



## ROCK BARRIER CULVERT INLET PROTECTION

NOT TO SCALE

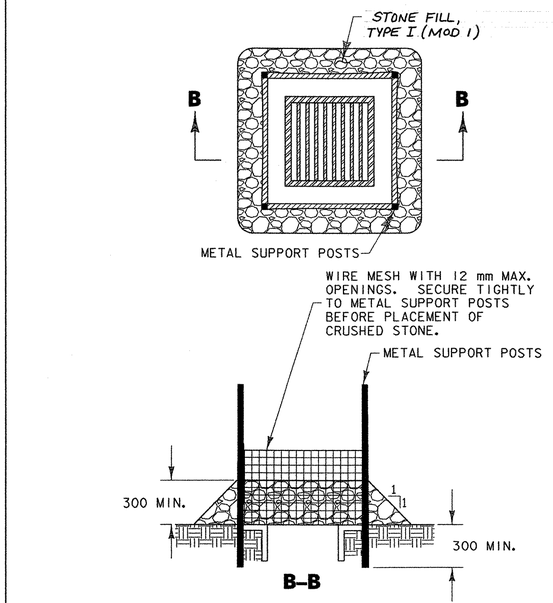
SEE SPECIAL PROVISION 613.10 (MOD 1)




## ROCK BARRIER INLET PROTECTION – PAVED AREAS

NOT TO SCALE

SEE SPECIAL PROVISION 613.10 (MOD 1)



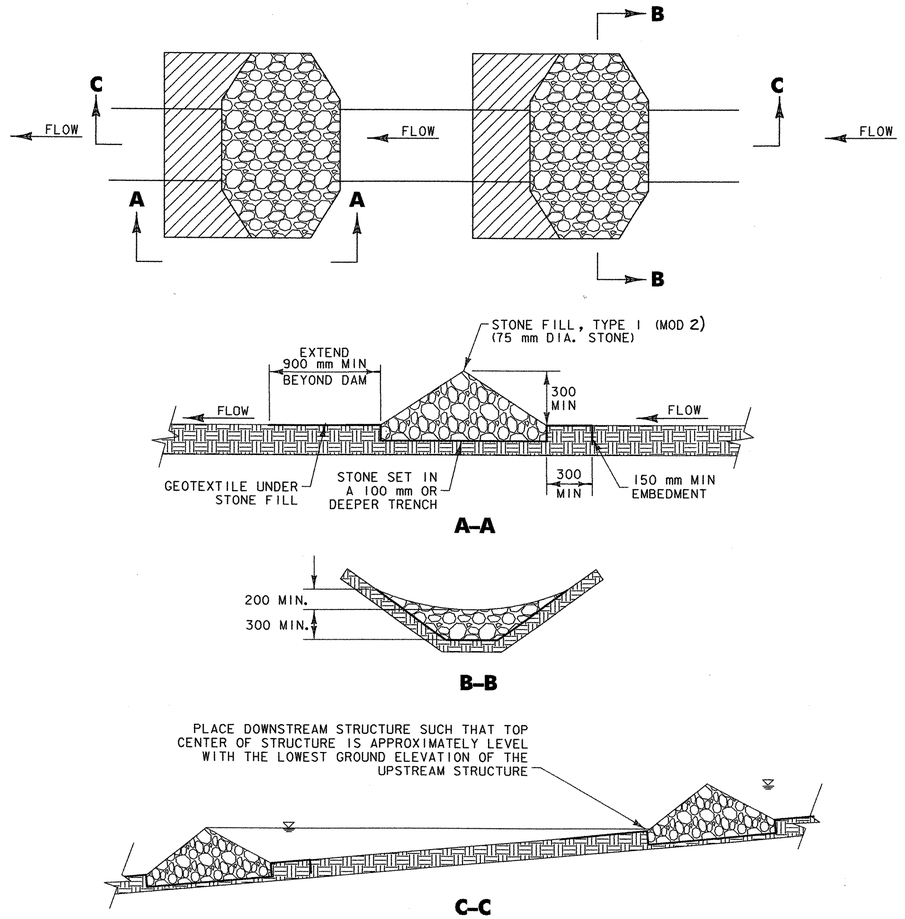

## ROCK BARRIER INLET PROTECTION – UNPAVED AREAS

NOT TO SCALE

SEE SPECIAL PROVISION 613.10 (MOD 1)

NOTES:

1. SEE EROSION PREVENTION AND SEDIMENT CONTROL SPECIFICATION IN THE SPECIAL PROVISIONS SECTION OF THE CONTRACT DOCUMENTS FOR INSTALLATION, INSPECTION, AND OPERATION & MAINTENANCE OF ALL EROSION CONTROL MEASURES.
2. SEE EROSION CONTROL PLANS FOR LOCATIONS OF EROSION CONTROL MEASURES.
3. FOR VEHICLE TRACKING PAD CONSTRUCTION DETAILS, SEE CONSTRUCTION SITE PLAN.




## STONE CHECK DAMS

NOT TO SCALE

SEE SPECIAL PROVISION 613.10 (MOD 2)

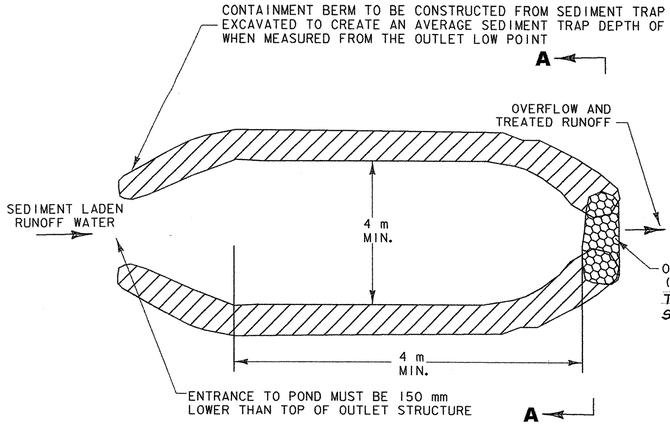
| | |
|---|---|
| PROJECT NAME: | TROUT RIVER RESTORATION |
| PROJECT NUMBER: | BRF-RS 0283(7) |
| FILE NAME: Erosion Control Details.dgn | PLOT DATE: 06/06/2003 |
| DESIGN SUPERVISOR: GAE | DRAWN BY: PZA |
| DESIGNED BY: SAR | CHECKED BY: WCH |
| **EROSION CONTROL DETAILS 1** | SHEET 139b OF 140 |

Dufresne-Henry

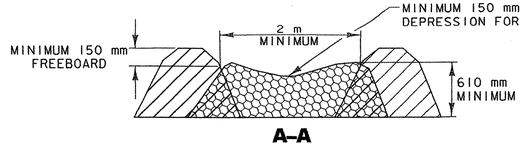
K:\630004 (Trout River\Highway\Design\Erosion Control Details.dgn

Erosion Control Details.dgn 06/06/2003 08:52:28 AM

Metric




**PLAN VIEW**

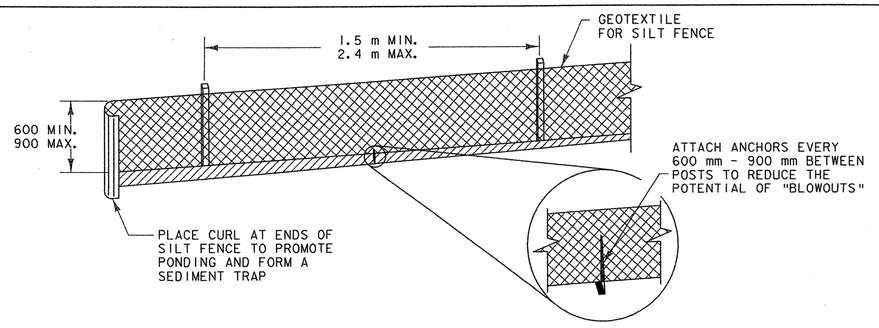


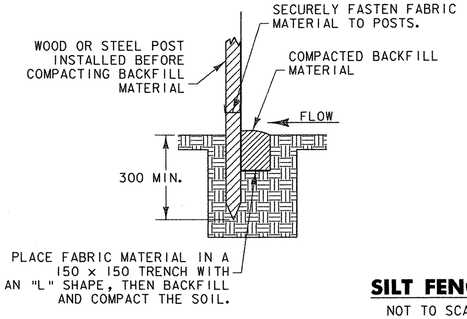

**A–A**

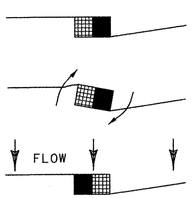
NOTES:
1. ONCE THE POND IS FULL, INFLOW RATES WILL EQUAL OUTFLOW RATES.
2. DISCHARGE MUST BE TO UNDISTURBED GROUND AND FLOW AWAY FROM THE CONSTRUCTION SITE.
3. SEDIMENT CAPTURED BY THE TEMPORARY SEDIMENT TRAP MUST BE REMOVED AND STABILIZED AS PER THE SPECIFICATIONS AND SPECIAL PROVISIONS.

## SINGLE CHAMBER TEMPORARY SEDIMENT TRAP

NOT TO SCALE




1. PLACE THE END POST OF ONE FENCE INSIDE THE END POST OF THE OTHER FENCE.
2. ROTATE BOTH POSTS AS LEAST 180° IN A CLOCKWISE DIRECTION TO CREATE A TIGHT SEAL WITH THE FABRIC MATERIAL
3. DRIVE BOTH POSTS 300 mm INTO THE GROUND AND BURY THE FLAP IN THE TRENCH.

ATTACHING TWO SILT FENCES WHEN TRENCHING IS USED

NOTE: SILT FENCE SHALL NOT BE INSTALLED IN AREAS WHERE CONCENTRATED FLOWS ARE EXPECTED, SUCH AS DRAINAGE DITCHES, AROUND INLETS, OR ABOVE OR BELOW CULVERT DISCHARGES.

## SILT FENCE

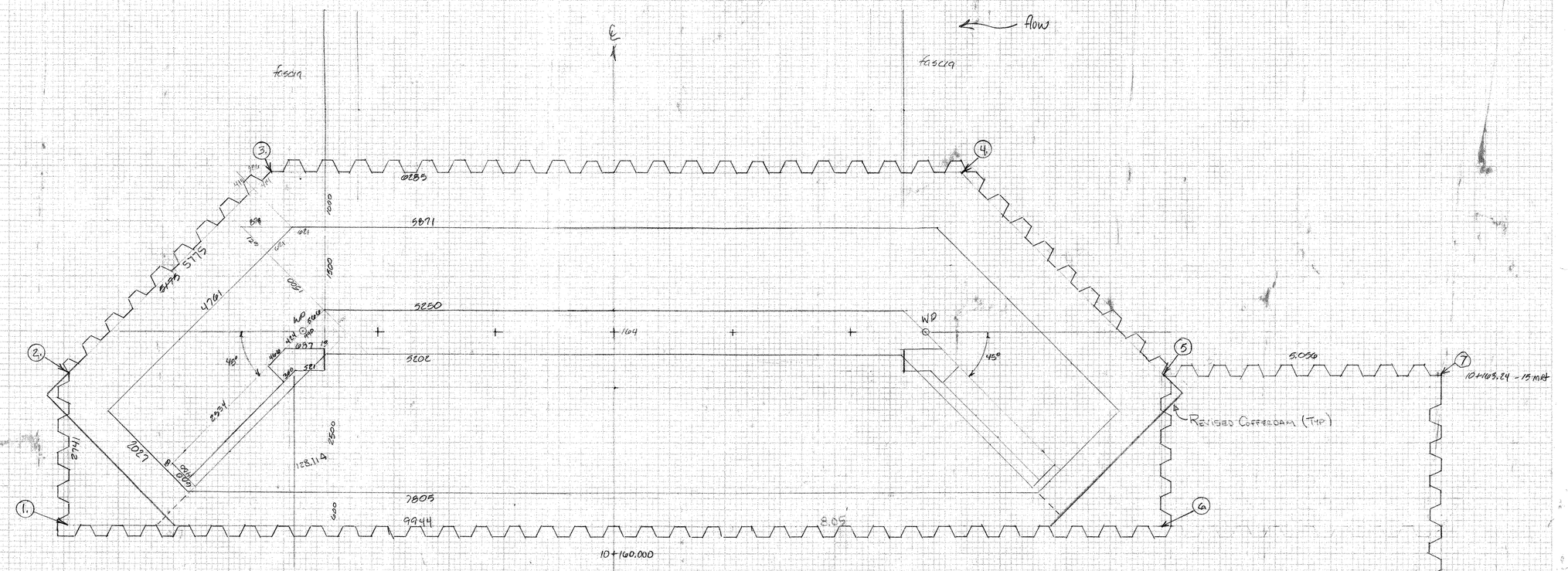
NOT TO SCALE

Dufresne-Henry

| | |
|---|---|
| PROJECT NAME: | TROUT RIVER RESTORATION |
| PROJECT NUMBER: | BRF-RS 0283(7) |
| FILE NAME: Erosion ControlDetails.dgn | PLOT DATE: 08/27/2003 |
| DESIGN SUPERVISOR: GAE | DRAWN BY: PZA |
| DESIGNED BY: SAR | CHECKED BY: WCH |
| **EROSION CONTROL DETAILS 2** | SHEET 140 OF 140 |

K:\63\0004 (Trout River\Highway\Design\Erosion ControlDetails.dgn

...\Erosion ControlDetails.dgn 08/27/2003 08:05:05 AM




| Coffer Dam points | Northern | Eastern |
|---|---|---|
| 1 | 1724.1146 | 1018.3896 |
| 2 | 1724.4784 | 1021.1064 |
| 3 | 1721.3371 | 1025.2189 |
| 4 | 1708.8783 | 1026.8871 |
| 5 | 1704.7058 | 1023.7458 |
| 6 | 1704.4020 | 1021.0290 |
| 7 | 1699.7948 | 1024.4168 |
| 8 | 1696.6701 | 1001.3813 |
| 9 | 1694.0158 | 981.5582 |

0 1m 2m 3m

Scale 1:1

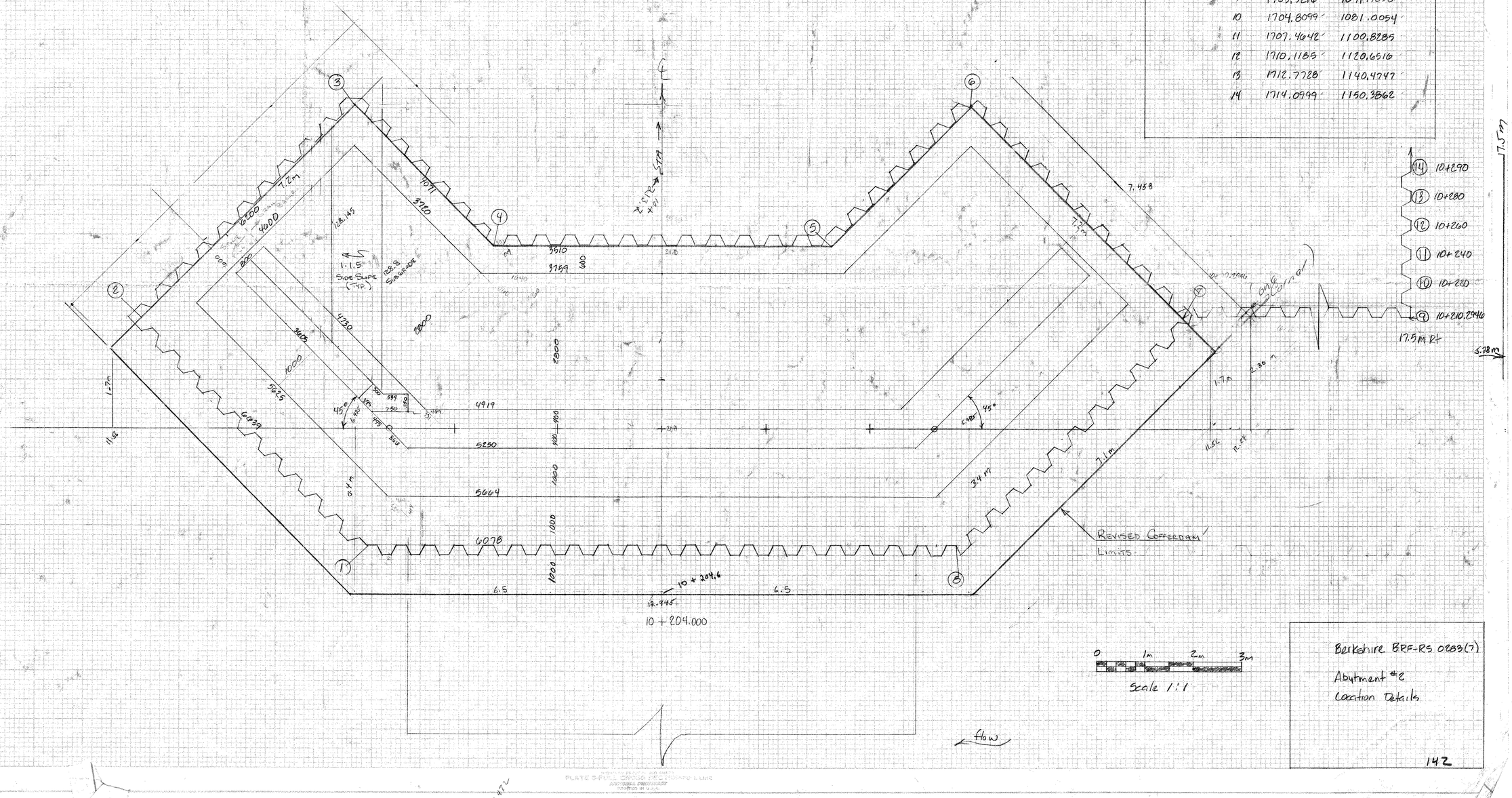
Berkshire BRF-RS 0283(7)

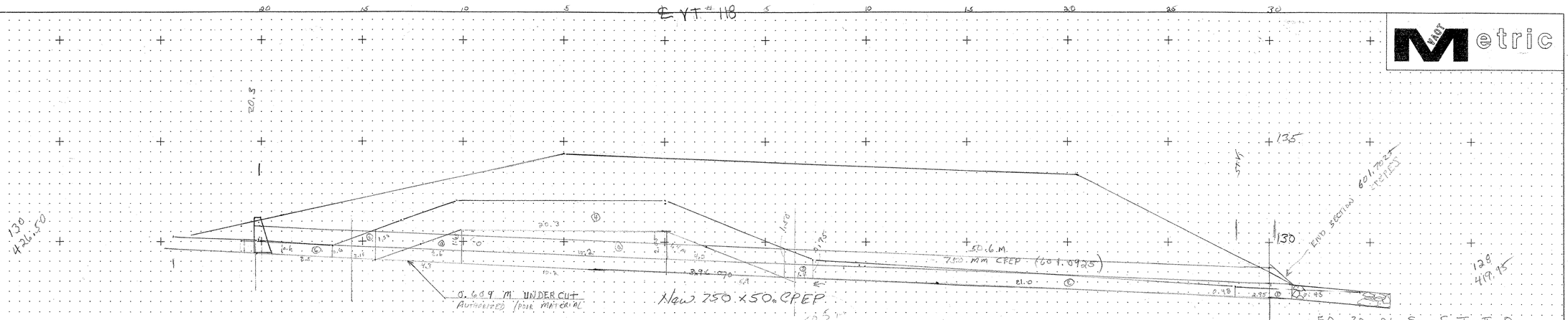
Abutment #1

Location Details

141

| Coffer Dam Points | Northern | Eastern |
|---|---|---|
| 1 | 1726.2682 | 1063.6037 |
| 2 | 1731.5442 | 1067.6336 |
| 3 | 1727.7807 | 1072.5607 |
| 4 | 1724.5455 | 1070.0896 |
| 5 | 1717.5876 | 1071.0213 |
| 6 | 1715.1165 | 1074.2565 |
| 7 | 1710.1894 | 1070.4930 |
| 8 | 1714.2493 | 1065.2170 |
| 9 | 1703.5216 | 1071.9858 |
| 10 | 1704.8099 | 1081.0054 |
| 11 | 1707.4642 | 1100.8285 |
| 12 | 1710.1185 | 1120.6516 |
| 13 | 1712.7728 | 1140.4747 |
| 14 | 1714.0999 | 1150.3862 |


CUT
1.5:1 Slope
1.5:1 Slope (typ.)
1.5:1 Slope
1.7m
7.2m
7.45m
6000
4600
4730
3800
1000
9425
6039
3759
3510
1340
2110
1000
1000
1000




REMOVE EXISTING 610 mm R.C.P. @ 10+420

WIDTH OF REMOVAL TRENCH = 1.610 m

LENGTH 22.m (MEASURED IN FIELD BY D.E.R.) 6-8-04

VOL = .22 x 1.610 x 1.50 = 53.13

$= \left[\left(\frac{1.8 \times 2.6}{2}\right) + \left(\frac{1.4 \times 4.0}{2}\right) + \left(10.2\left(\frac{1.0 + 1.4}{2}\right)\right)\right] 1.610 \times 1.5 = \frac{39.46}{92.59}$ cm ITEM 204.20

16.34 m² 12.24

See Drainage Summary sheet

Total TE 138.1
92.6
230.7 Right

To Final Drainage Summary sht

COMPUTE TRENCH EXCAVATION FOR NEW PIPE

① 2.95 x $\frac{0.95+0.48}{2}$ (1.85) = 2.54

② 21.0 x $\frac{0.48+0.75}{2}$ (1.85) = 27.78

③ 1.4 x $\frac{0.75+1.59}{2}$ (1.85) = 3.17

④ 60.3 x 1.50 (1.85) = 56.33

⑥ 2.15 x $\frac{0.6+1.6}{2}$ (1.85) = 4.18

⑥ 2.50 $\frac{0.6+0.6}{2}$ (1.85) = 2.78

⑦ $\frac{5.9 \times 2.15}{2}$ (1.85)(1.5) = 16.78

⑧ 10.2 x $\frac{3.95+1.66}{2}$ (1.85)(1.5) = 52.36

⑦ 4.3 x $\frac{1.65}{2}$ (1.85)(1.5) = 9.84

175.76 cm ITEM 204.20 TRENCH EXCAVATION

Headwall 90m(6) x 1.0 x (6) x 0.60m x 4.44 kg/m = 1598.4 kg = 1600 kg WBT 02-01-05

Steel for T.F.H. Cradle 2450 x 5m x 2 = 7.45m = 18.62m = 18.6 tons WBT 02-01-05
EWH 12-23-05

GRANULAR BACKFILL FOR STRUCTURES

COMPUTE FROM 2' BELOW PIPE TO 6" OVER PIPE

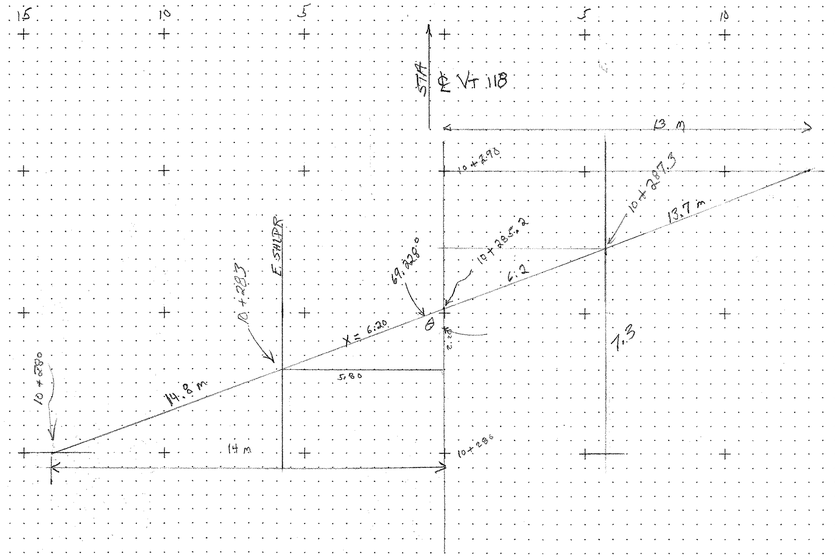
LENGTH OF + 50.M

HEIGHT OF = 610 + 750 + 150 = 1.510 M.
WIDTH 1.85 m

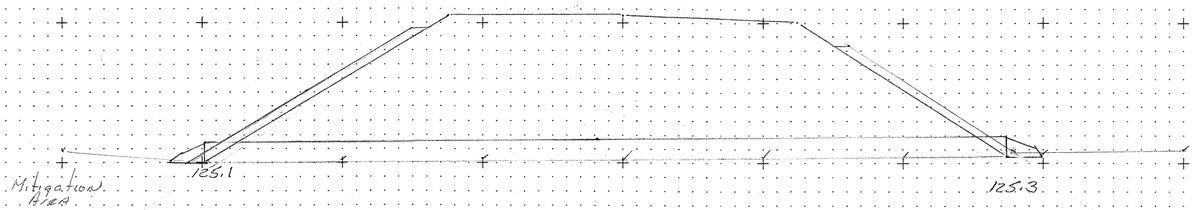
VOLUME = 1.51 x 50 x 1.85 = 139.675 cm ITEM 204.30

Say 139.7

| | |
|---|---|
| PROJECT: BERKSHIRE | PROJECT NO.: BRF-RS 0283(7) |
| DESIGN FILE NAME: IPARM FILE NAME: | PLOT DATE: 01-MAY-1996 |
| VT 118 ℄ Pipe @ 10+411 ± | |
| 143 | SHEET: 1 OF 3 |




PLAN




10+285.2 (SKEW RT 69.228°)
New 750 X 28.65 CPEP
0m³ Trench Excavation
See Drainage Summary Sheet

Fill slope at 10+290 13m RT

125.2 m (from sections)

COMPUTE FILL SLOPE 14 m LEFT AT 10+280

℄ GRADE = 130.259

Slope ELEV = 130.257 + .628 (3.5) − .042 (2.3) − 8.2 (.666)

= 124.79

TAN θ = 5.80 / 2.80 = 2.0636636

θ = 69.228°

.93499991

SIN 69.228° = 5.80 / X

X = 5.80 / .93499991 = 6.20'

130.259 − 5.47 = 124.79

COMPUTE 10+283 LT SHLDR

| STA | ELEV ℄ ℄ | |
|---|---|---|
| 10+280 | 130.259 | |
| 10+283 | 130.270 | .037 X .3 = .011 |
| 10+290 | 130.296 | +.112 |
| | | −.0874 |

LT SHLDR = 130.270 + .032 (3.5) − .0380 (2.3)

= 130.295

COMPUTE 10+285.2 ℄ ℄

| STA | ELEV ℄ ℄ | |
|---|---|---|
| 10+280 | 130.259 | .037 X .58 = .019 |
| 10+285.2 | 130.278 | |
| 10+290 | 130.296 | |

COMPUTE 10+287.3 RT SHLDR

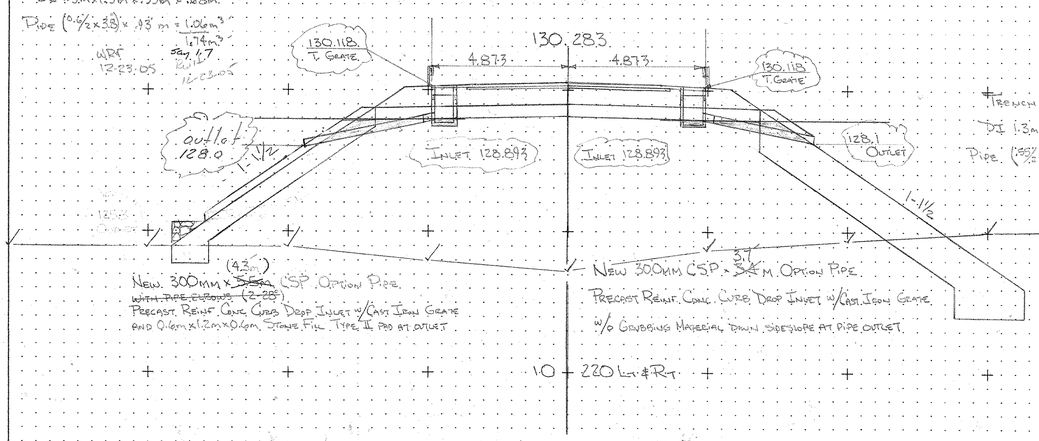
| STA | ELEV ℄ ℄ | |
|---|---|---|
| 10+280 | 130.259 | .73 X .037 |
| 10+287.3 | 130.286 | = .027 |
| 10+290 | 130.296 | |
| | −.133 | −.445 |

RT SHLDR = 130.286 − .038 (3.5) − 2.3 (.663)

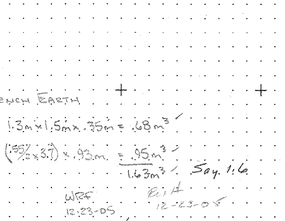
130.608

| | |
|---|---|
| PROJECT: BEAKSHIRE | PROJECT NO.: BRF-RS 0283(7) |
| DESIGN FILE NAME: | |
| IPARM FILE NAME: | PLOT DATE: 01-MAY-1996 |
| 750 mm PIPE @ 10+295 | |
| 144 | SHEET: 2 OF 3 |

MTO Metric




Trench Earth
DI 1.3m x 1.5m x .35m = .68m³
Pipe (0.4⅞ x 3.8) x .13 m = 1.06m³
1.74m³
Say 1.7
WRF 12-23-05
Built 12-23-05

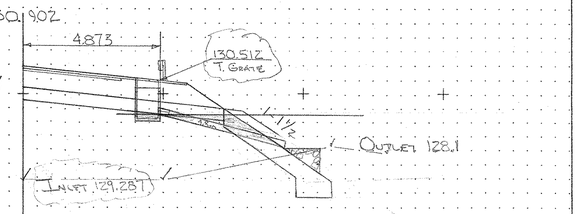



Trench Earth
DI 1.3m x 1.5m x .35m = .68m³
Pipe (.59⅜ x 3.7) x .93m = .95m³
1.63m³
Say 1.6
WRF 12-23-05
Built 12-23-05

10 + 220 Lt & Rt

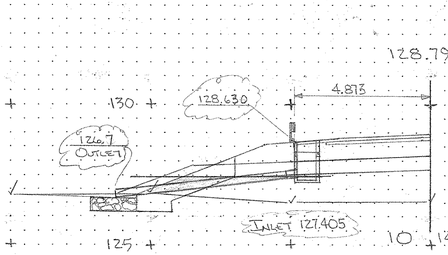
New 300mm CSP x 3.7m Option Pipe
Precast Reinf. Conc. Curb Drop Inlet w/Cast Iron Grate
w/o Grubbing Material Down Sideslope at Pipe Outlet

Trench Earth
DI 1.3m x 1.5m x .35m = .68m³
Pipe (.67½ x 4.3) x .93m = 1.40m³
2.08m³
Say 2.1
WRF 12-22-05
Built 12-23-05




10 + 335 Rt

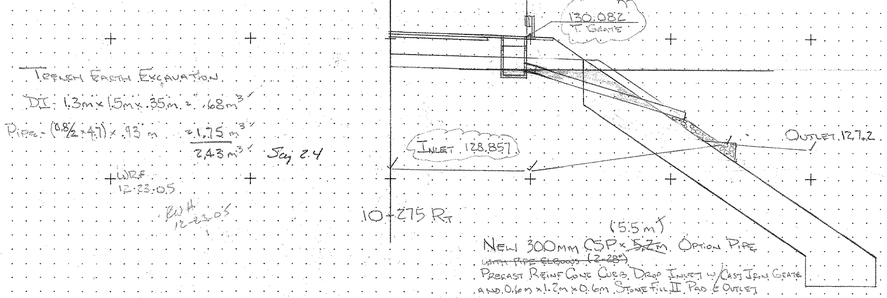
New 300mm CSP x 4.3m Option Pipe
With Pipe Elbows (2-28°)
Precast Reinf Cone Curb Drop Inlet w/Cast Iron Grate
and 0.6m x 1.2m x 0.6m Stone Fill Type II Pad at Outlet




Trench Earth
DI: 1.3m x 1.5m x .35m. = .68m³
Pipe (.45⅜ x 5.4) x .93m = 1.13m³
1.8 1m³
Say 1.8
WRF 12-23-05
Built 12-23-05

10 + 140 Lt

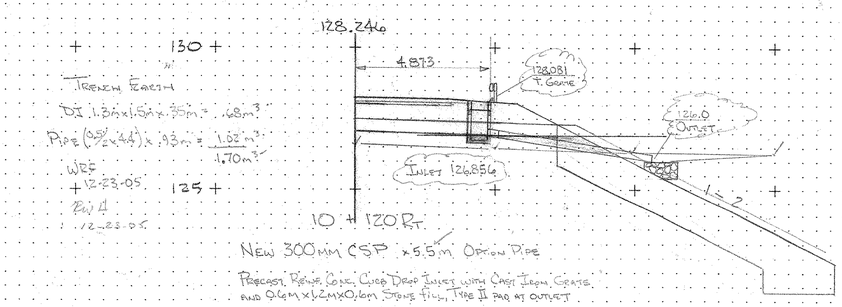
New 300mm CSP x 6.1m Option Pipe
Precast Reinf Conc Curb Drop Inlet with Cast Iron Grate
and 0.6m x 1.2m x 0.6m Stone Fill Type II pad at outlet




Trench Earth Excavation
DI: 1.3m x 1.5m x .35m. = .68m³
Pipe - (0.8½ x 4.1) x .93m = 1.75 m³
2.43m³
Say 2.4
WRF 12-23-05
Built 12-23-05

10 + 275 Rt

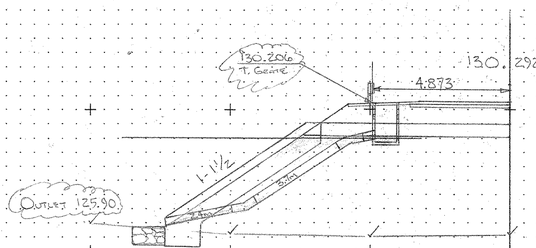
New 300mm CSP x 5.2m Option Pipe
With Pipe Elbows (2-28°)
Precast Reinf Cone Curb Drop Inlet w/Cast Iron Grate
and 0.6m x 1.2m x 0.6m Stone Fill II Pad & Outlet




Trench Earth
DI 1.3m x 1.5m x .35m = .68m³
Pipe (0.5⅝ x 4.4) x .93m = 1.02 m³
1.70m³
WRF 12-23-05
Built 12-23-05

10 + 120 Rt

New 300mm CSP x 5.5m Option Pipe
Precast Reinf Cone Curb Drop Inlet with Cast Iron Grate
and 0.6m x 1.2m x 0.6m Stone Fill Type II pad at outlet




(3.7m + 2.4m)

New 300mm CSP x 6.1m Option Pipe
With Pipe Elbows (2-28°)
Precast Reinf Cone Curb Drop Inlet w/Cast Iron Grate and
0.6m x 1.2m x 0.6m Stone Fill Type II Pad at Outlet

10 + 260 Lt

VOID - Eliminated 02-08-05 Craig Keller

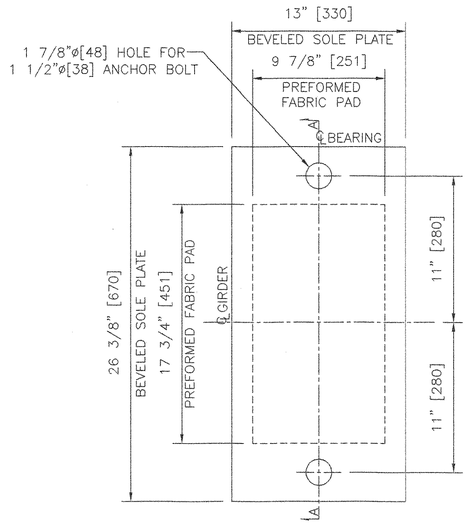
| | |
|---|---|
| PROJECT: Berkshire | PROJECT NO.: BRF-RS 0283(7) |
| DESIGN FILE NAME: IPARM FILE NAME: - Slope Pipes - | PLOT DATE: 01-MAY-1996 |
| | 145 SHEET: 3 OF 3 |

# ITEM DETAIL AND DRAINAGE SHEET

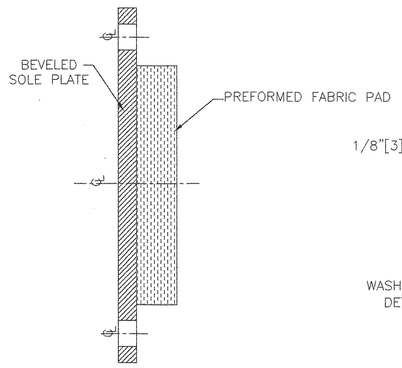
**STATE OF VERMONT**
**AGENCY OF TRANSPORTATION**

## DRAINAGE STRUCTURES

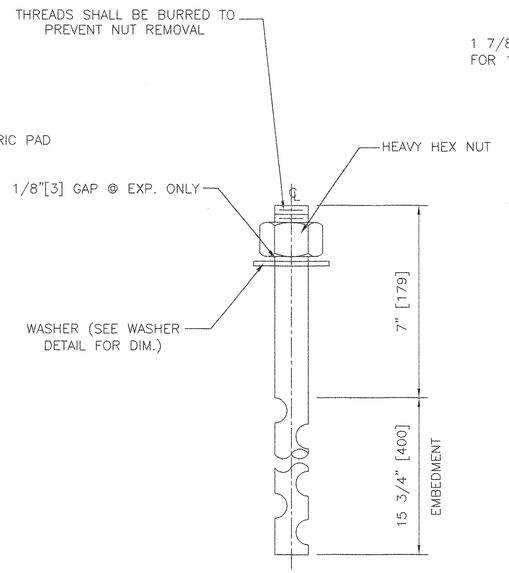
| STA. | STA. | POSITION | ASKEW | TYPE IN/OUT | DITCH IN | DITCH OUT | PIPE ARCH S IN | PIPE ARCH R IN | PIPE ARCH L FT | PIPE D IN | PIPE L FT | ALLOWABLE OPTIONS PCCSP TH | CAAP TH | RCP CL | CSP TH | CPEP | PCCSP PI TH | PIPE ELBOW NO-DEG | ES EA | CB | PRCCS | DEPTH DI | CONC CL B CY | REIN STEEL LBS | DI GRATE TYPE | CHAN ELEV | CRM m³ CY | TR EXCAV EARTH CY | TR EXCAV ROCK CY | COMM EXC CY | UNC CHAN EXC CY | STRUC EXCAV CY | GRAN BKF STRUC CY | GRAN BORR CY | EROS MATT SY | STONE FILL CY | STONE FILL TYPE | MRKR POSTS LT | MRKR POSTS RT | Geotextile for S.F. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | VT | Route | 118 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| See D-3 | 10+120 | | Rt | | | | | | | 300 | 5.5' | | | | X | | | | | | 1' | | | | | | 1.7' | | | | | | | | | | | | | |
| D-3 | 10+140 | | Lt | | | | | | | 300 | 6.1' | | | | X | | | | | | 1' | | | | | | 1.8' | | | | | | | | | | | | | |
| D-3 | 10+220 | | Rt | | | | | | | 300 | 3.7' | | | | X | | | | | | 1' | | | | | | 1.6' | | | | | | | | | | | | | |
| D-3 | 10+220 | | Lt | | | | | | | 300 | 4.3' | | | | X | | | | | | 1' | | | | | | 1.7' | | | | | | | | | | | | | |
| D-3 | 10+260 | | Lt | | | | | | | — | | | | | | | | | | | | | | | | | — | | | | | | | | | | | | PRCCDI ; slope pipe eliminated |
| D-3 | 10+275 | | Rt | | | | | | | 300 | 5.5' | | | | X | | | | | | 1' | | | | | | 2.4' | | | | | | | | | | | | | |
| D-2 | 10+290 | 10+350 | Rt-Lt | | | | | | | 750 | 28.65' | | | | | X | | | 2 | | | | | | | | 0' | | | | | | | | | | | | |
| D-3 | 10+335 | | Rt | | | | | | | 300 | 4.3' | | | | X | | | | | | 1' | | | | | | 2.1' | | | | | | | | | | | | | |
| D-1 | 10+423 | 10+410 | Lt-Rt | | | | | | | 750 | 50.0' | | | | | X | | | 1' | | | | | | | | 2.6 | 280.7' | | | | | 139.7' | | | | | | | Includes existing pipe removal |
| Bkl Pg 53 | 10+475 | 10+486 | Lt | | | | | | | 450 | 12.2' | | | | | X | | | 2' | | | | | | | | 0' | | | | | | | | | | | | | Drive Culvert |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | TH | #42 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bkl Pg 54 | 19+880 | 19+876 | Lt-Rt | | | | | | | | | | | | | | | | | | | | | | | | 22.1' | | | | | | | | | | | | | |
| Bkl Pg 53 | 19+888 | 19+890 | Lt-Rt | | | | | | | 450 | 18.3' | | | | | X | | | 0 | | | 0.9 | 1.22 | 67 | B | | 75.5' | | | | | | | | | | | 6.2 | II | Includes inlet ditch 8-17 Stone Fill c Outlet |
| Bkl Pg 53 | 20+062 | 20+076 | Lt-Lt | | | | | | | 450 | 18.3' | | | | | X | | | 2' | | | | | | | | 17.3' | | | | | | | | | | | | | Drive Culvert plus removal @ 20+070 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Wetland | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bkl Pg 54 | 10+225 | 10+237 | Lt-Lt | | | | | | | | | | | | | | | | | | | | | | | | 52.5' | | | | | | | | | | | 34.2 | II | Spillway |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



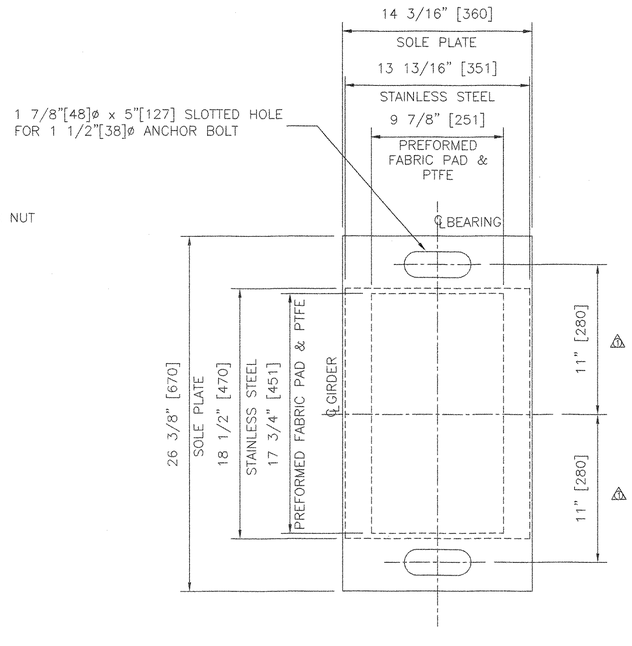

PLAN VIEW
LOCATION: ABUTMENT 1
QUANTITY: 5



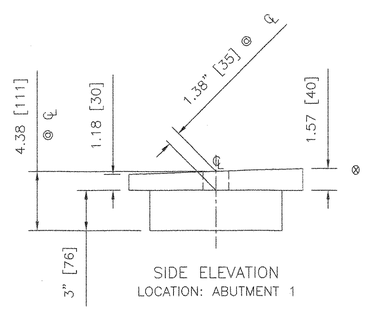

SECTION A–A
LOCATION: ABUTMENT 1



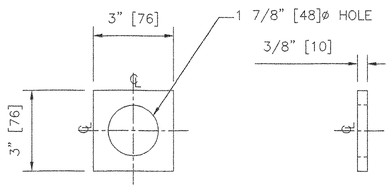

ANCHOR BOLT DETAIL
N.T.S.
QUANTITY: 20
1 1/2"[38]ø x 22 3/4"[578] LONG ASTM F1554 GR 55 SWEDGED ONE END ANCHOR BOLT WITH 4"[102] THREAD WITH ONE A36 PLATE WASHER AND ONE ASTM A563 HEAVY HEX NUT. ALL GALV.



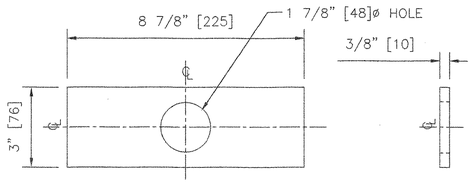

PLAN VIEW
LOCATION: ABUTMENT 2
QUANTITY: 5



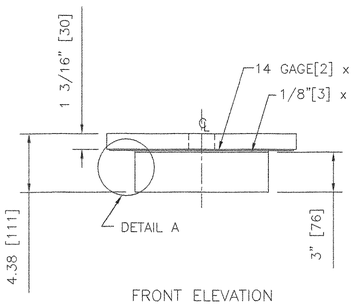

SIDE ELEVATION
LOCATION: ABUTMENT 1



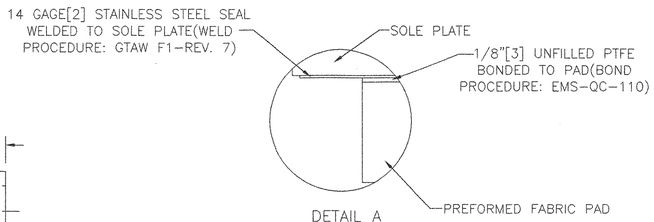

WASHER DETAIL FOR FIXED BEARING ONLY
N.T.S.
QUANTITY: 10




WASHER DETAIL FOR EXPANSION BEARING ONLY
N.T.S.
QUANTITY: 10




FRONT ELEVATION
LOCATION: ABUTMENT 2




DETAIL A
N.T.S.

MATERIAL:
STEEL– ASTM A709 GRADE 50 ZINC METALLIZED
STAINLESS STEEL– ASTM A240 TYPE 304, 10 RMS FINISH OR LESS
PTFE– ASTM D4894 VIRGIN UNFILLED
PREFORMED FABRIC PAD– AASHTO 18.4.9.1 DIV. II
ANCHOR BOLTS– F1554 GRADE 55 GALVANIZED

NOTES:
1. DESIGN CRITERIA:
   A. BASE PLATE TO CONCRETE DESIGN PRESSURE = 1,000 PSI(6.895MPa)
   B. MINIMUM ALLOWABLE DESIGN ROTATION = 0.015 RADIANS
   C. HORIZONTAL DESIGN CAPACITY SHALL BE A MINIMUM 10% OF VERTICAL LOAD
   D. DESIGN LOAD PER BEARING = 174.5 KIPS[776KN]
2. ALL BEARING DEVICES SHALL BE METALIZED AS PER SUBSECTION 531.04 (B) AND 506.15(b) OF THE GENERAL SPECIAL PROVISIONS. AREAS OF METALIZING DAMAGED BY FIELD WELDING OR HANDLING SHALL BE REPAIRED IN ACCORDANCE WITH SUPPLEMANTAL SPECIFICATIONS 513 WHICH REFERENCES ASTM A760
3. ALL EDGED CORNERS SHALL BE ROUNDED TO 1/16"[1.6] RADIUS
4. ⊗ MARKS THE THICK END OF BEVEL
5. UNITS THAT ARE IN [ ] ARE IN mm
6. COSMEC REPRESENTATIVE: MR. MATT McANDREWS (508)668–6600
7. LOCATION OF FABRICATION: 70 SOUTH STREET WALPOLE MA, 02081

RECEIVED
CK'D BY_____ OK'D BY_____
JUN 1 6 2004
RESUBMIT_____ APPROVED_____
BY DATE

STATE OF VERMONT
AGENCY OF TRANSPORTATION
HIGHWAY NO. VT. ROUTE 118
OVER TROUT RIVER
BRIDGE NO. 26
TOWN OF BERKSHIRE

COSMEC, INC. 70 SOUTH STREET WALPOLE, MA. 02081

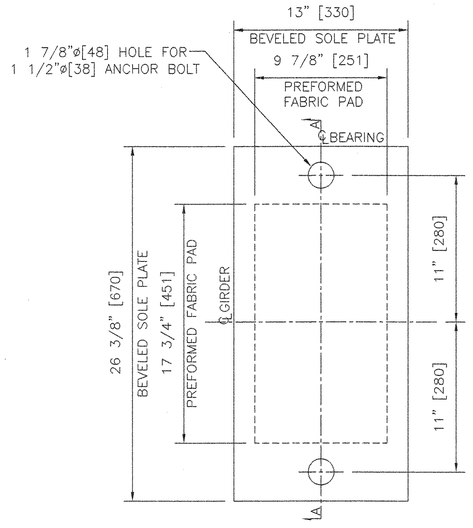
| SCALE: 3/16"=1" | DRAWN BY: MK | CHECK BY: NH |
|---|---|---|
| | DATE: 1/15/04 | DATE: 1/27/04 |

PREFORMED FABRIC PAD BEARINGS

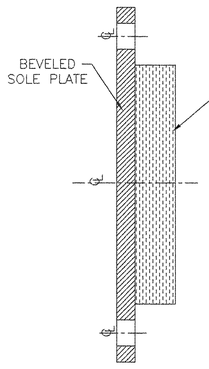
| CUSTOMER | S.O. NUMBER | DRAWING NUMBER | REV. |
|---|---|---|---|
| A.L. ST. ONGE | 59980 | 4048 | 1 |

| REV. | | BY | DATE | CHECKED | DATE |
|---|---|---|---|---|---|
| 1 | ADDED SLOT OFFSET DIMENSIONS | MK | 6/8/04 | | |

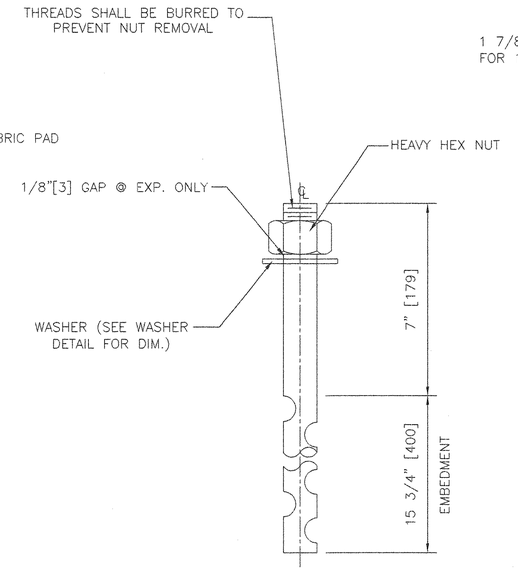
147 BB




PLAN VIEW
LOCATION: ABUTMENT 1
QUANTITY: 5




SECTION A–A
LOCATION: ABUTMENT 1

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N.T.S.
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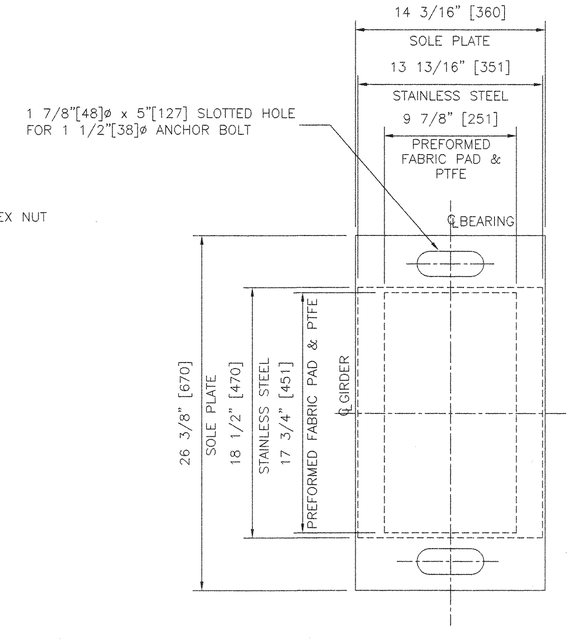
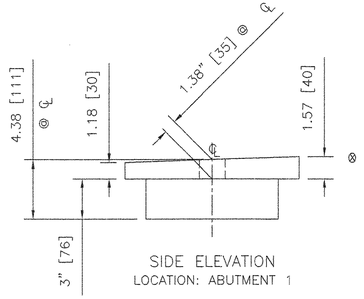
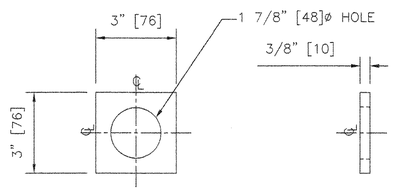


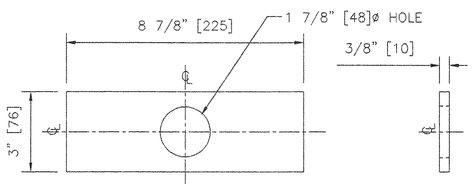

PLAN VIEW
LOCATION: ABUTMENT 2
QUANTITY: 5



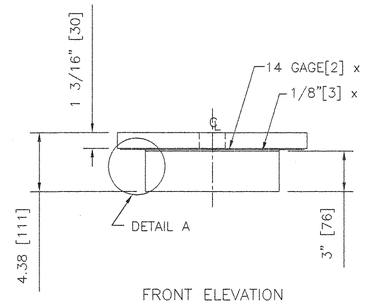

SIDE ELEVATION
LOCATION: ABUTMENT 1



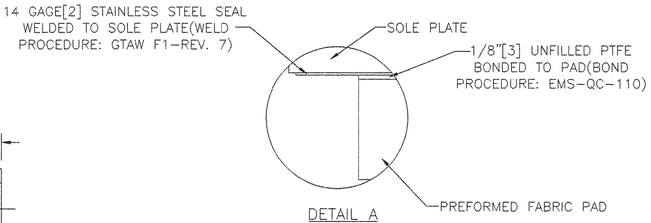

WASHER DETAIL FOR FIXED BEARING ONLY
N.T.S.
QUANTITY: 10




WASHER DETAIL FOR EXPANSION BEARING ONLY
N.T.S.
QUANTITY: 10




FRONT ELEVATION
LOCATION: ABUTMENT 2

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6. COSMEC REPRESENTATIVE: MR. MATT McANDREWS (508)668–6600
7. LOCATION OF FABRICATION: 70 SOUTH STREET WALPOLE MA, 02081

RECEIVED
CK'D BY_____ CK'D BY_____
MAY 24 2004
RESUBMIT_____ APPROVED
BY DATE 5/24/04

Reviewed
Rejected
Furnish as Corrected
Revise and Resubmit
Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite, information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner.

McFarland-Johnson, Inc.
Date 5/24/04
By EGW

STATE OF VERMONT
AGENCY OF TRANSPORTATION
HIGHWAY NO. VT. ROUTE 118
OVER TROUT RIVER
BRIDGE NO. 26
TOWN OF BERKSHIRE

COSMEC, INC.
70 SOUTH STREET
WALPOLE, MA. 02081

| SCALE: 3/16"=1" | DRAWN BY: MK | DATE: 1/15/04 | CHECK BY: NH | DATE: 1/27/04 |
|---|---|---|---|---|

PREFORMED FABRIC PAD BEARINGS

| REV. | | BY | DATE | CHECKED | DATE |
|---|---|---|---|---|---|

| CUSTOMER | S.O. NUMBER | DRAWING NUMBER | REV. |
|---|---|---|---|
| A.L. ST. ONGE | 59980 | 4048 | |

C:\DWG\CURRENT\MATTS WORK\VT 59980\VT 59980.dwg, 02/05/2004 10:16:29 AM, DesignJet 700 C4705B.pc3

148 BB

# GENERAL NOTES

## CONSTRUCTION SPECIFICATIONS

1). ALL MATERIAL AND WORKMANSHIP TO BE IN ACCORDANCE WITH THE STATE OF VERMONT AGENCY OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2001 WITH LATEST REVISIONS.

## DESIGN SPECIFICATIONS

1). AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (A.A.S.H.T.O) STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1996 EDITION WITH LATEST REVISIONS.

## MATERIAL SPECIFICATIONS

1). UNLESS NOTED, ALL STEEL TO BE AASHTO M270M GRADE 345W (ASTM A709-345W).

2). HIGH STRENGTH BOLTS: AASHTO M164 (ASTM A325) 22mm (7/8") DIA. TYPE 1 (GALV.) BOLTS SHALL BE USED FOR PAINTED CONNECTIONS AND TYPE 3 BOLTS SHALL BE USED FOR UNPAINTED CONNECTIONS.

3). MATERIAL NOTED "H2-3" OR "CVN" SHALL BE CHARPY V-NOTCH TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF AASHTO M270M, SUPPLEMENT S83 FOR TEMPERATURE ZONE 2. (20J @ 4° C - "H" FREQUENCY)

## FABRICATION

1). ALL HOLES SHALL BE PUNCHED OR DRILLED FULL SIZE (UN).
2). STUDS ARE FURNISHED AND FIELD APPLIED BY OTHERS.

## FIELD CONNECTIONS

1). ALL FIELD CONNECTIONS SHALL BE MADE WITH 22mm (7/8") DIAMETER HIGH STRENGTH A-325 BOLTS, INSTALLED PER SECTION 506.19(c).

2). BOLTS SHALL HAVE HEAVY HEX NUT, HEX HEAD, & ONE FLAT WASHER EACH (WASHER TO BE PLACED UNDER TURNED ELEMENT).

3). PIECE MARKS WILL BE LOCATED AS SHOWN ON ERECTION DRAWINGS.

4). AT OVERSIZED HOLE LOCATIONS A HARDENED WASHER SHALL BE PLACED UNDER BOTH THE HEAD AND THE NUT.

## WELDING

1). THE CONFIGURATION OF THE WELD JOINTS AND ALL WELDING PROCEDURES SHALL BE IN ACCORDANCE WITH AASHTO/AWS D1.5-02 BRIDGE WELDING CODE AND IN ADDITION TO SPECIFICATIONS SHOWN ABOVE. ALL WELDING WILL BE DETAILED TO PRE-QUALIFIED JOINTS, UNLESS PROHIBITED BY THE DESIGNER.

2). WELDING OF MAIN LOAD CARRYING MEMBERS AND ATTACHMENTS SHALL BE PERFORMED USING THE AUTOMATIC SUBMERGED ARC & SHIELDED METAL ARC PROCESSES. ALL WELDS ARE CONTINUOUS U.N.

3). NON DESTRUCTIVE TESTING OF WELDS SHALL BE IN ACCORDANCE WITH THE REFERENCED SPECIFICATION.

## CLEANING:

1). ALL STEEL SHALL BE BLAST CLEANED AS PER SSPC SP-10 PER SPEC. 506.14(a)

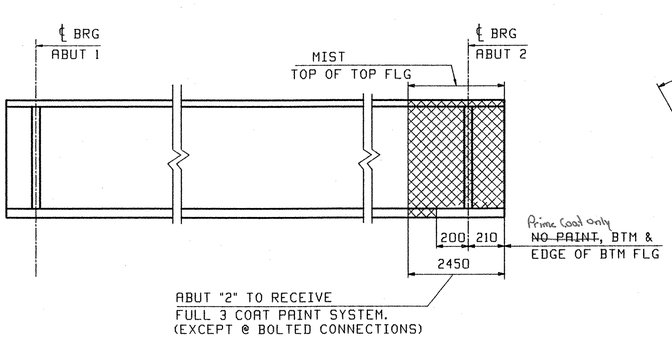
2). STEEL THAT SHALL BE PAINTED SHALL BE CLEANED IN ACCORDANCE WITH SECTION 513.04(A) OF THE SUPPLEMENTAL SPECIFICATIONS.

## PAINTING

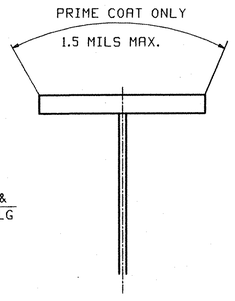
1). STEEL TO BE PAINTED, AS SHOWN BELOW, SHALL BE SHOP APPLIED AS NOTED IN SPECIAL PROVISION SECTION 513.02 (a) & (b) THE COLOR OF THE FINAL COAT OF PAINT SHALL BE BROWN AND SHALL CONFORM WITH FEDERAL STANDARD #595, COLOR CHIP NUMBER 20059 (BROWN).

2). PROTECTIVE GREASE SHALL BE APPLIED IN THE FIELD BY OTHERS.

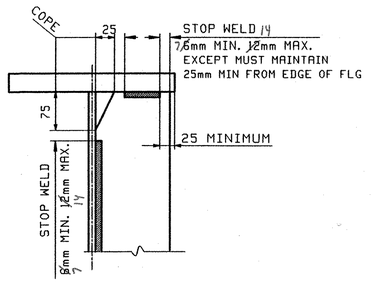
| | | DFT IN MILS | |
|---|---|---|---|
| | | MIN. | MAX |
| WASSER | (MOISTURE CURE SYSTEM) | | |
| HIGH TECH | P MC-ZINC-ZINC RICH URETHANE (ORGANIC) | 3.0 | 6.0 |
| COATINGS | I MC-FERROX B-URETHANE | 3.0 | 6.0 |
| | T MC-FERROX A-ALIPHATIC URETHANE | 3.0 | 10.0 |



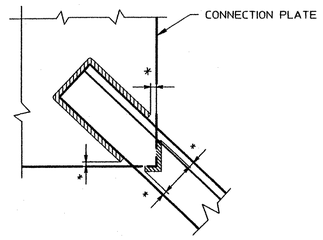

TYPICAL PAINT SKETCH




TOP FLG DETAIL

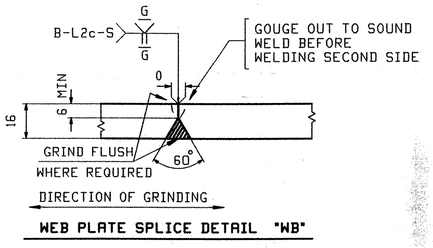



DETAIL "WS1"

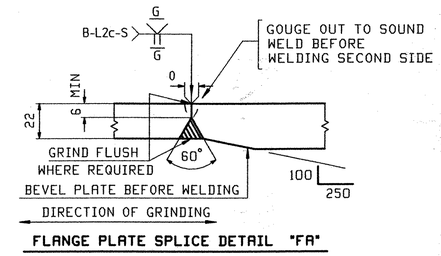



* NO WELD 7 MIN, 14 MAX.

TYP. WELD TERMINATION




WEB PLATE SPLICE DETAIL "WB"




FLANGE PLATE SPLICE DETAIL "FA"

NOTE TO ENGINEER:
THESE NOTES ARE NOT INTENDED TO BE ALL INCLUSIVE AND COMPLIANCE WITH RELEVANT SPECIFICATIONS REMAIN UNCHANGED.

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9a-04 | | | | | | | | | |
| | OUT FOR APPROVAL | | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | AS NOTED | AS NOTED |

SURFACE PREP. & PAINT:

RECEIVED
OCT 20 2004
BY

☐ Reviewed ☐ Rejected
☑ Furnish as Corrected ☐ Revise and Resubmit ☐ Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite. Information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner

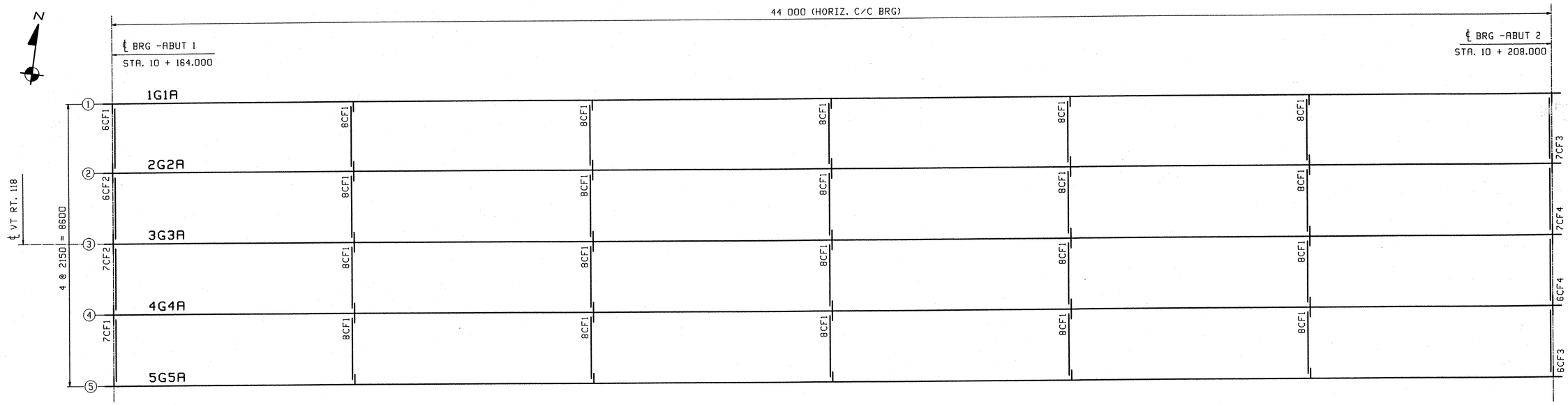
McFarland-Johnson, Inc.
Date 10/18/04
By Steven F. Delia

| DESCRIPTION: GENERAL NOTES | DRAWN BY | DATE |
|---|---|---|
| JOB: VT. ROUTE 118 OVER TROUT RIVER | WL | 07/09 |
| TOWN OF BERKSHIRE, VT | CHKD BY | |
| FRANKLIN COUNTY | PCP | 07/22 |
| TENSOR 2475 | APPROV BY | |
| PROJ NO. BRF-RS 0283(7) | SUPERVISOR | W. J. GATTI |
| CUSTOMER: A.L. ST. ONGE | Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | GN1 |
| 149 SS | REV. △ |

PCP Tue Aug 3 10:35:14 EDT 2004 /users/jobs/2475/GN1.dgn Rev0




# FRAMING PLAN

| FIELD BOLT LIST | | | | | | A325 Type 1 GALV BOLTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LINE | NO REQ'D. | BOLT DIAM. | BOLT LEN. | BOLTS /CONN. | # OF CONN. | GRIP | THICKNESS OF PCS. CONNECTED | | | | | | WASH CODE | PIECES CONNECTED AND REMARKS |
| 8 | | | | | | | | | | | | | | ABUTMENT CROSSFRAMES ABUT2 |
| 9 | 32 | 7/8 | 2 1/2 | 4 | 8 | 30 | 10 | 20 | | | | | 1 | TOP CHANNEL TO STIFF |
| 10 | 48 | 7/8 | 2 3/4 | 6 | 8 | 33 | 13 | 20 | | | | | 1 | BTM GUSSET TO STIFF |
| 11 | | | | | | | | | | | | | | |
| WASHER CODES | | | | | | | | | | | | | | |
| 1: 1 Hard Flat Washer | | | | | | | | | | | | | | |

| FIELD BOLT LIST | | | | | | A325 Type 3 BOLTS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LINE | NO REQ'D. | BOLT DIAM. | BOLT LEN. | BOLTS /CONN. | # OF CONN. | GRIP | THICKNESS OF PCS. CONNECTED | | | | | | WASH CODE | PIECES CONNECTED AND REMARKS |
| 1 | | | | | | | | | | | | | | ABUTMENT CROSSFRAMES ABUT1 |
| 2 | 32 | 7/8 | 2 1/2 | 4 | 8 | 30 | 10 | 20 | | | | | 1 | TOP CHANNEL TO STIFF |
| 3 | 48 | 7/8 | 2 3/4 | 6 | 8 | 33 | 13 | 20 | | | | | 1 | BTM GUSSET TO STIFF |
| 4 | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | INTERMEDIATE CROSSFRAMES |
| 6 | 160 | 7/8 | 2 1/2 | 4 | 40 | 27 | 13 | 14 | | | | | 1 | TOP GUSSET TO STIFF |
| 7 | 240 | 7/8 | 2 1/2 | 6 | 40 | 27 | 13 | 14 | | | | | 1 | BTM GUSSET TO STIFF |
| WASHER CODES | | | | | | | | | | | | | | |
| 1: 1 Hard Flat Washer | | | | | | | | | | | | | | |

| FIELD BOLT SUMMARY | | | 2% ADDED, MIN. 2 EXTRA | | | |
|---|---|---|---|---|---|---|
| LINE | NO. OF BOLTS | BOLT DIAM. | TYPE | BOLT LEN | ACTUAL COUNT | REMARKS |
| 1 | 34 | 7/8 | A325 Type 1 | 2 1/2 | 32 | GALV |
| 2 | 50 | 7/8 | A325 Type 1 | 2 3/4 | 48 | GALV |
| 3 | | | | | | |
| 4 | 84 | Hard Flat Washers | for 7/8 ø | BOLT | | F436 GALV |
| 5 | | | | | | |
| 6 | | | | | | |
| 7 | 441 | 7/8 | A325 Type 3 | 2 1/2 | 432 | |
| 8 | 50 | 7/8 | A325 Type 3 | 2 3/4 | 48 | |
| 9 | | | | | | |
| 10 | 491 | Hard Flat Washers | for 7/8 ø | BOLT | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |

FOR GENERAL NOTES SEE DRAWING GN1.

RECEIVED
CK'D BY Jwc OK'D BY
OCT 2 0 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed
☐ Rejected
☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc.
Date 10/18/04
By Steven F. Dalio

1. ALL BOLT DIAMETERS AND LENGTHS ARE SHOWN IN INCHES (ENGLISH UNIT OF MEASUREMENT).
2. ALL GRIP VALUES ARE SHOWN IN METRIC UNITS.

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9-2-04 | | | | | | | | | |
| | OUT FOR APPROVAL | | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | AS NOTED | AS NOTED |

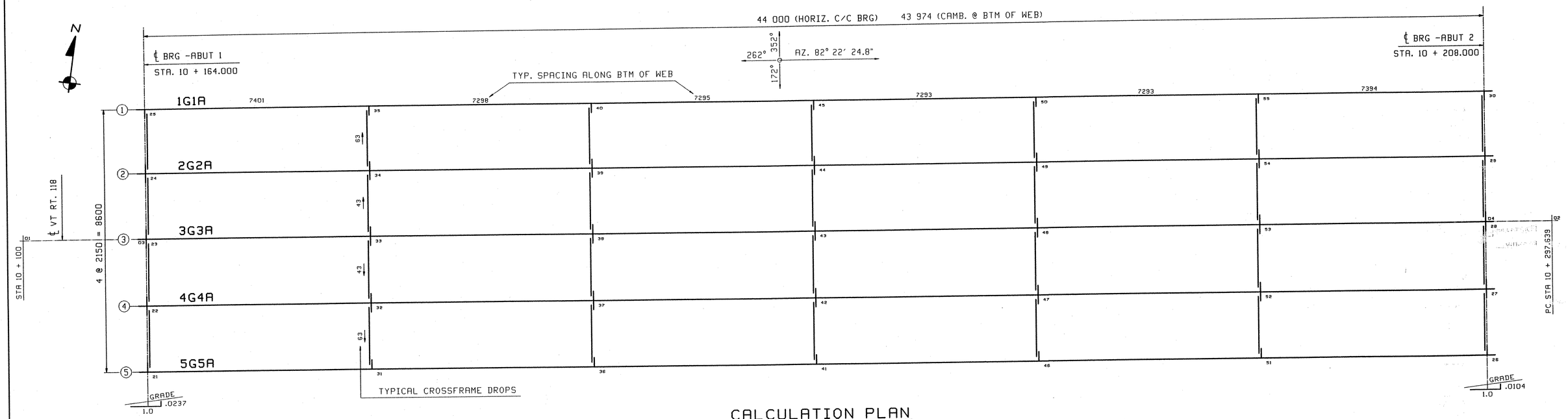
SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

| DESCRIPTION: FRAMING PLAN | DRAWN BY | DATE |
|---|---|---|
| JOB: VT. ROUTE 118 OVER TROUT RIVER | AB | 07/30/04 |
| TOWN OF BERKSHIRE, VT | CHKD BY | |
| FRANKLIN COUNTY | PCP | 07/30/04 |
| TENSOR 2475 | APPROV BY | |
| | SUPERVISOR | W. J. GATTI |
| PROJ NO. BRF-RS 0283(7) | Q.A. | |
| CUSTOMER: A.L. ST. ONGE | | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | E1 |
| 15055 | REV. △ |

PCP Tue Aug 3 10:05:04 EDT 2004 /users/jobs/2475/d1 : Revd




## CALCULATION PLAN

RECEIVED
CK'D BY JWC CK'D BY
OCT 2 0 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed
☐ Rejected
☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc.
Date 10/19/04
By Steven F. Dakin

**** NOTE ****
**THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION. THIS DWG IS SUBMITTED FOR INFORMATION ONLY AND IS NOT INTENDED FOR SHOP FABRICATION.**

NOTES
1. LONGITUDINAL DIMENSIONS ARE SLOPING ALONG BOTT OF WEB WITH CORRECTIONS MADE FOR VERTICAL CURVE, GRADE & DL CAMBER (UN).
2. TRANSVERSE DIMENSIONS ARE IN A HORIZ. PLANE (UN).
3. DROP ARROW POINTS TOWARDS LOW END OF MEMBER.
4. ENDS OF GIRDERS AND BRG. STIFF'S ARE VERTICAL AFTER DL ROTATION.
5. CF CONN. STIFFENERS ARE NORMAL TO GRADE.
6. BOTT PT NUMBERS =TOP PT NUMBERS + 100.
7. FOR LAYOUTS SEE DWG TD1.
8. CROSSFRAME DROPS ARE CALCULATED IN THEIR FINAL POSITION.

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 12-04 | | | | | | | | | |
| | OUT FOR APPROVAL | | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | AS NOTED | AS NOTED |

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GNI.
ALL OTHER STEEL SHALL BE UNPAINTED.

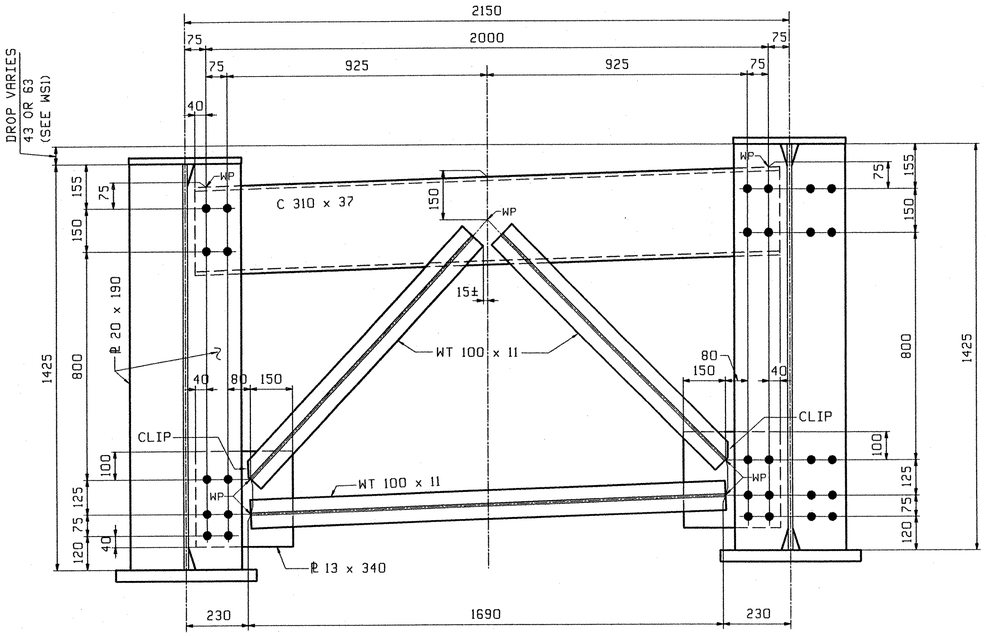
| | | | |
|---|---|---|---|
| DESCRIPTION: | CALCULATION PLAN | DRAWN BY | DATE |
| JOB: | VT. ROUTE 118 OVER TROUT RIVER | WL | 07/09 |
| | TOWN OF BERKSHIRE, VT | CHKD BY | |
| | FRANKLIN COUNTY | PCP | 07/22 |
| | | APPROV BY | |
| | | SUPERVISOR | W. J. GATTI |
| PROJ NO. | BRF-RS 0283(7) | Q.A. | |
| CUSTOMER: | A.L. ST. ONGE | | |

TENSOR 2475

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | WS1 |
| 157 55 | REV. △ |

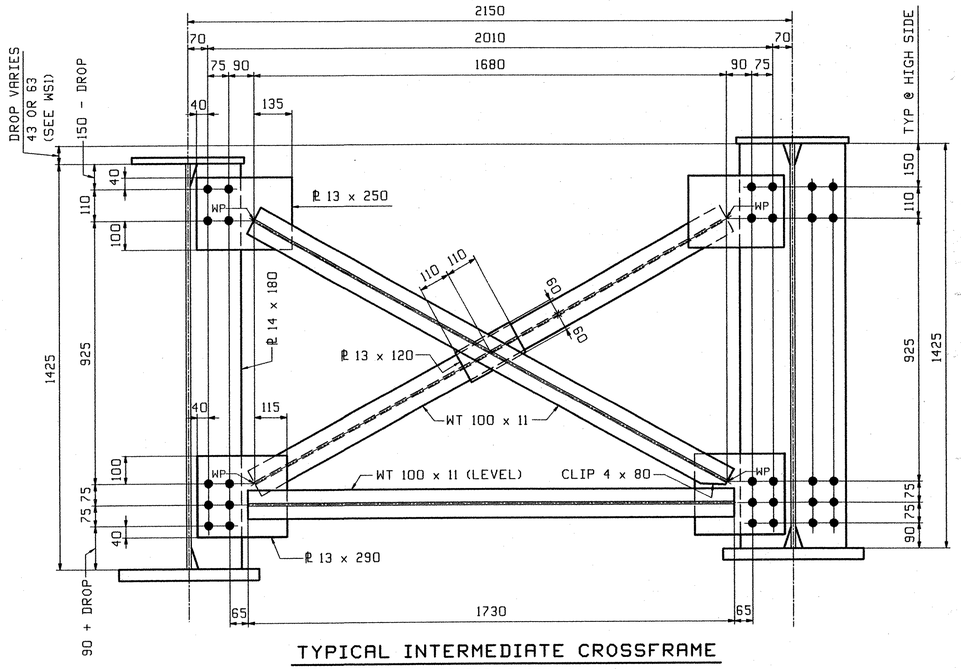
PCP Tue Aug 3 08:58:38 EDT 2004 /users/jobs/2475/WS1.dwg




## TYPICAL END CROSSFRAME

(@ ABUTMENTS, AWAY FROM BACKWALL)

(END CROSSFRAMES AT ABUTMENT 2 SHALL BE PAINTED- BOLTS SHALL BE A325-1 GALV)




## TYPICAL INTERMEDIATE CROSSFRAME

(LOOKING UP STATION)

**** NOTE ****
THE PURPOSE OF THIS DRAWING IS TO COORDINATE GEOMETRIC CONTROL INFORMATION AND CONNECTION SPACING. THIS DWG IS SUBMITTED FOR INFORMATION ONLY & IS NOT INTENDED FOR SHOP FABRICATION. DETAIL DWGS WILL SHOW ALL WELDING AND DIMENSIONS REQ'D FOR FABRICATION.

RECEIVED
CK'D BY JWC OK'D BY
OCT 2 0 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed ☐ Furnish as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc.
Date 10/18/04
By Steven F. Dale

SCALE 1:10

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9/04 | | | | | | | | | |
| | OUT FOR APPROVAL | | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | 15/16"ø (24mm) | 78ø A325-3 (UN) |

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

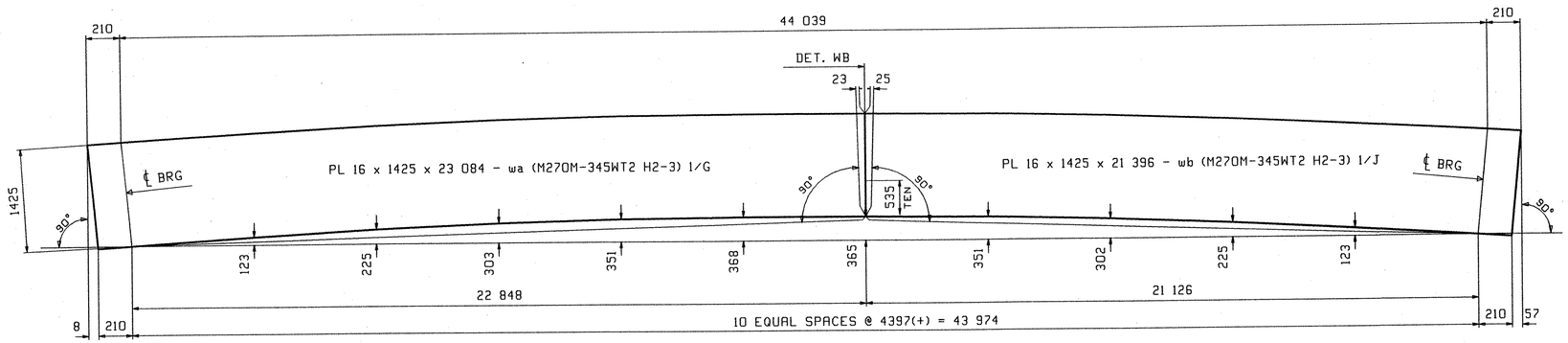
| | | | |
|---|---|---|---|
| DESCRIPTION: | CROSSFRAME LAYOUTS | DRAWN BY | DATE |
| JOB: | VT. ROUTE 118 OVER TROUT RIVER<br>TOWN OF BERKSHIRE, VT<br>FRANKLIN COUNTY | WL | 07/09 |
| | | CHKD BY | |
| | | PCP | 07/22 |
| | | APPROV BY | |
| | | SUPERVISOR | W. J. GATTI |
| PROJ NO. | BRF-RS 0283(7) | Q.A. | |
| CUSTOMER: | A.L. ST. ONGE | | |

TENSOR 2475

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

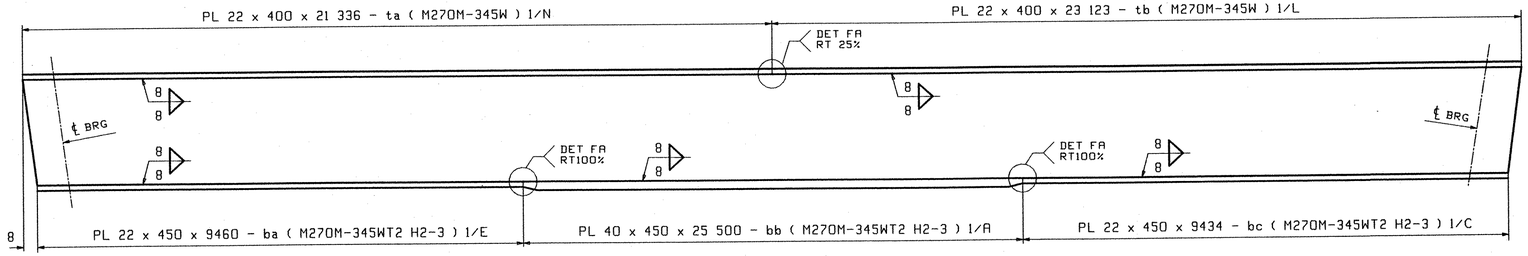
| JOB NO. | DRG. NO. |
|---|---|
| 222 | TD1 |
| 15255 | REV. △ |

PCP Tue Aug 3 10:05:23 EDT 2004 /users/pcp/2475/TD1.dgn




CAMBER DIAGRAM FOR 1G1A THRU 5G5A

(5 ALIKE)




FLANGE DIAGRAM FOR 1G1A THRU 5G5A

(5 ALIKE)

RECEIVED
CK'D BY JWK OK'D BY
OCT 2 0 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed
☐ Rejected
☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc.
Date 10/19/04
By Steven J. Dellis

NOTES:
1) FOR GENERAL NOTES AND WELD DETAILS SEE GN1.
2) MATERIAL SHALL BE M270M GR345W.
3) "H2-3" DENOTES MATERIAL SUBJECT TO ZONE 2, "H" FREQUENCY, CHARPY V-NOTCH TESTING OF 20J @ 4°C.

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9-2-04 | | | | | | | | | |
| | OUT FOR APPROVAL | | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | AS NOTED | AS NOTED |

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

DESCRIPTION: CAMBER AND FLANGE DIAGRAMS
JOB: VT. ROUTE 118 OVER TROUT RIVER
TOWN OF BERKSHIRE, VT
FRANKLIN COUNTY
PROJ NO. BRF-RS 0283(7)
CUSTOMER: A.L. ST. ONGE

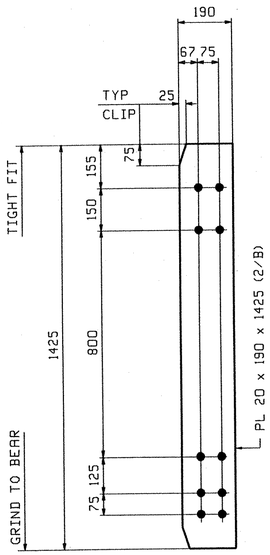
| | DRAWN BY | DATE |
|---|---|---|
| | WL | 07/12 |
| | CHKD BY | |
| | PCP | 07/22 |
| | APPROV BY | |
| | SUPERVISOR | W. J. GATTI |
| | Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | C1 |
| 15355 | REV. △ |

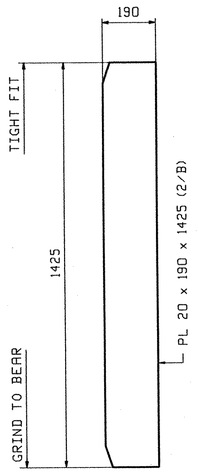
TENSOR 2475

PCP Tue Aug 3 10:46:46 EDT 2004 c:\users\pcp\2475\C1 : Rev0



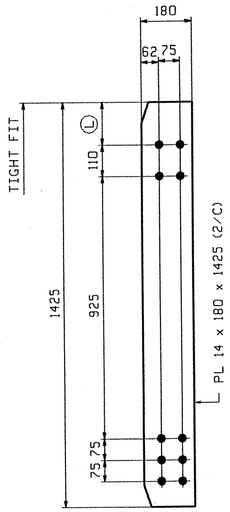

16 ~ x1a

BRG STIFF.



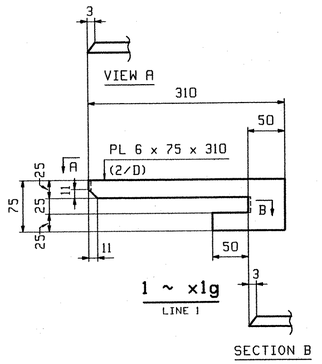

4 ~ x1b

BRG STIFF.




## CROSSFR. CONN. STIFF

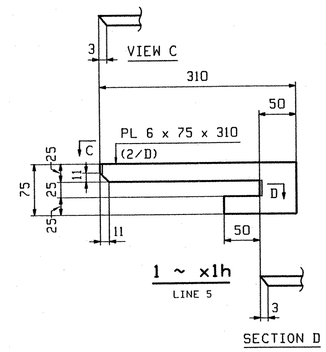
| MARK | Q.TY | Ⓛ |
|---|---|---|
| x1c | 20 | 150 |
| x1d | 10 | 107 |
| x1f | 10 | 87 |




1 ~ x1g

LINE 1

SECTION B




1 ~ x1h

LINE 5

SECTION D

NOTES:
1. ALL MATERIAL TO BE AASHTO M270M-345W.
2. FOR GENERAL NOTES SEE DRAWING GN1.
3. ALL BOLT HOLES SHALL BE $\frac{15}{16}$"ø FOR $\frac{7}{8}$"ø HSB.

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 7-2-04 | | | | | | | | | |
| | OUT FOR APPROVAL | | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | $\frac{15}{16}$ø" (24mm) | |

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

| | | | |
|---|---|---|---|
| DESCRIPTION: | GIRDER STANDARD | DRAWN BY | DATE |
| JOB: | VT. ROUTE 118 OVER TROUT RIVER | AB | 07/26/04 |
| | TOWN OF BERKSHIRE, VT | CHKD BY | |
| | FRANKLIN COUNTY | PCP | 07/30/04 |
| | | APPROV BY | |
| | | SUPERVISOR | W. J. GATTI |
| PROJ NO. | BRF-RS 0283(7) | Q.A. | |
| CUSTOMER: | A.L. ST. ONGE | | |

TENSOR 2475

**CASCO BAY STEEL STRUCTURES, INC.**

75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | X1 |
| 15455 | REV. △ |

RECEIVED
CK'D BY JWC CK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed
☐ Rejected
☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

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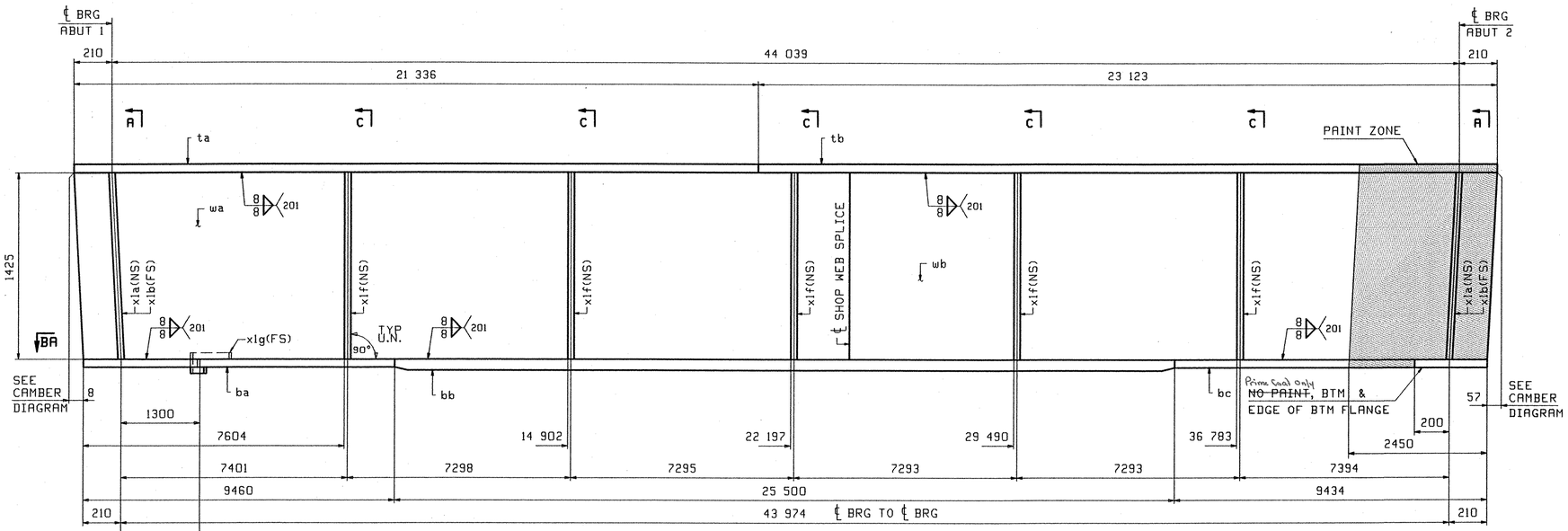
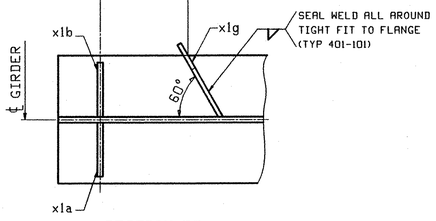
McFarland-Johnson, Inc.
Date 10/18/04
By Steven F. Dalton

PCP Tue Aug 3 10:05:53 EDT 2004 /users/jobs/2475/d1.dgn

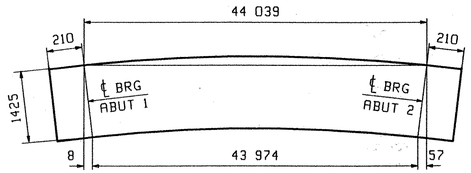



SECTION BA

## ONE - GIRDER - 1G1A

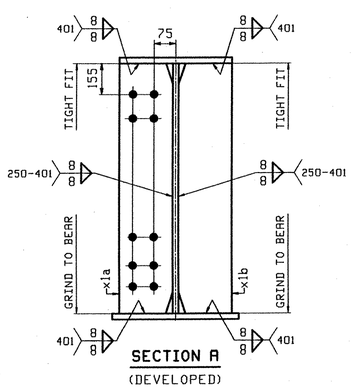
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.

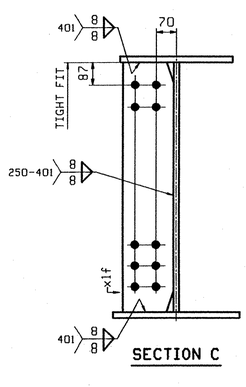



ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

| ABM INFO PAGE | ABM INFO LINE | SHIP MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | WT | PROCUREMENT NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | |
| | | 1G1A | 1 | | GIRDER | | | | 16416 kg 36191 lbs | |
| 1 | G | | 1 | wa | PL 16x1425 | 23 | 084 | (M270M-345WT2) | (H2-3) | |
| 1 | J | | 1 | wb | PL 16x1425 | 21 | 396 | (M270M-345WT2) | (H2-3) | |
| 1 | N | | 1 | ta | PL 22x400 | 21 | 336 | | | |
| 1 | L | | 1 | tb | PL 22x400 | 23 | 123 | | | |
| 1 | E | | 1 | ba | PL 22x450 | 9 | 460 | (M270M-345WT2) | (H2-3) | |
| 1 | A | | 1 | bb | PL 40x450 | 25 | 500 | (M270M-345WT2) | (H2-3) | |
| 1 | C | | 1 | bc | PL 22x450 | 9 | 434 | (M270M-345WT2) | (H2-3) | |
| 2 | B | | 2 | x1a | PL 20x190 | 1 | 425 | | | |
| 2 | B | | 2 | x1b | PL 20x190 | 1 | 425 | | | |
| 2 | C | | 5 | x1f | PL 14x180 | 1 | 425 | | | |
| 2 | D | | 1 | x1g | PL 6x75 | 0 | 310 | | | |

JOB NO.
DRAWING NO. 1
REV.




RECEIVED
OK'D BY: JWC OK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☐ Reviewed ☐ Furnish as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc.
Date 10/26/04
By Steven F. Dolin

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUT FOR APPROVAL | 9.2.04 | | | | | | | | | |
| OUT FOR APPROVAL | | | | | | | | | | |
| ISSUED TO SHOP | | | | | | | | | | |
| FIELD & OFFICE | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | 15 16Ø" (24mm) (UN) | |

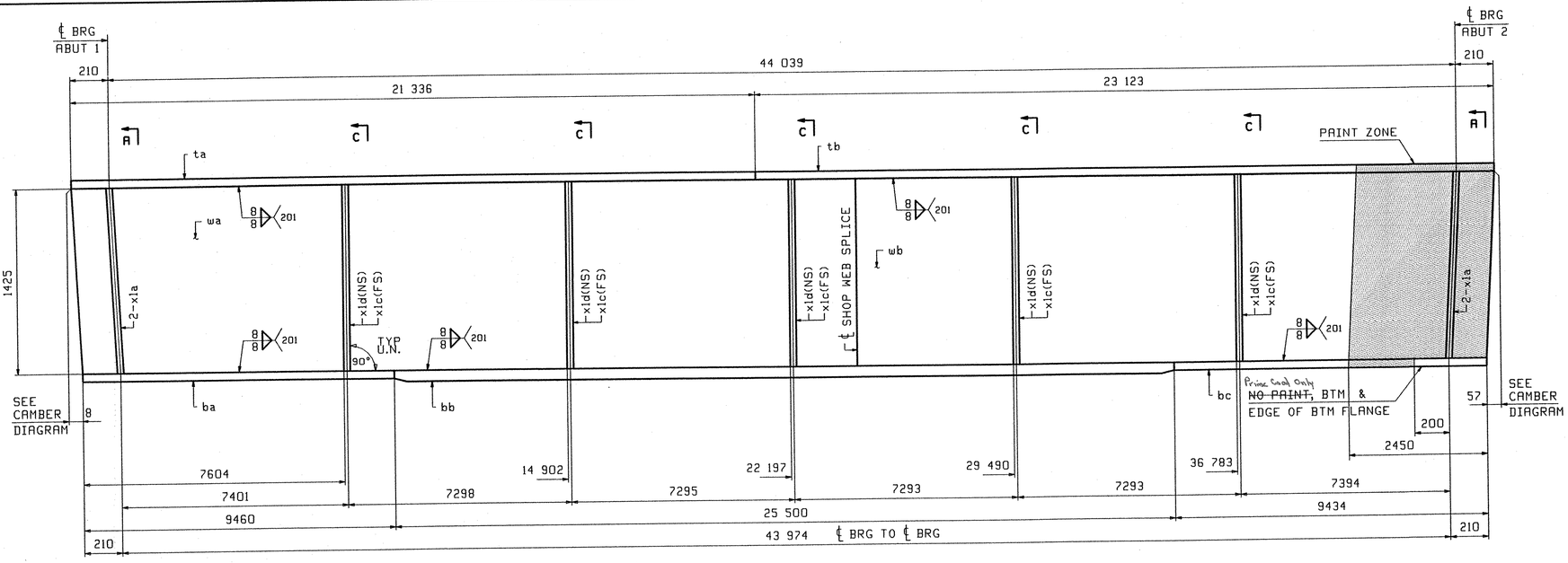
SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

| | | | |
|---|---|---|---|
| DESCRIPTION: | GIRDER - 1G1A | DRAWN BY | DATE |
| JOB: | VT. ROUTE 118 OVER TROUT RIVER | AB | 07/27/04 |
| | TOWN OF BERKSHIRE, VT | CHKD BY | |
| | FRANKLIN COUNTY | PCP | 07/30/04 |
| TENSOR 2475 | | APPROV BY | |
| | | SUPERVISOR | W. J. GATTI |
| PROJ NO. | BRF-RS 0283(7) | Q.A. | |
| CUSTOMER: | A.L. ST. ONGE | | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

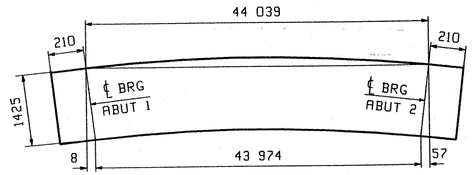
| JOB NO. | DRG. NO. |
|---|---|
| 222 | 1 |
| /55 SS | REV. △ |

PCP Tue Aug 3 10:58:02 EDT 2004 /users/jobs/2475/1 : Rev0



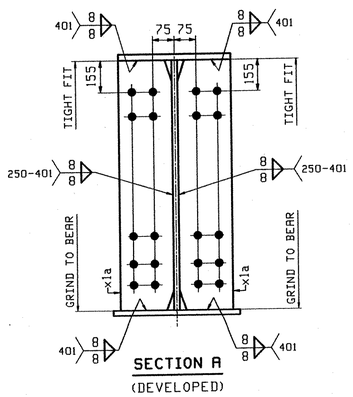

## ONE - GIRDER - 2G2A

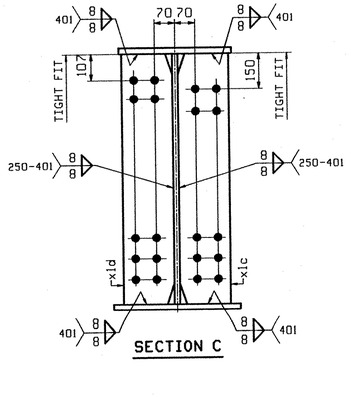
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.




ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1

| ABM INFO | | SHIP | BILL OF MATERIAL | | | LENGTH | | JOB NO. | DRAWING NO. | | REV. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PAGE | LINE | MARK | QTY | MARK | MATERIAL | m | mm | REMARKS | 2 | | |
| | | | | | | | | | WT | PROCUREMENT NOTES | |
| | | 2G2A | 1 | | GIRDER | | | 16556 kg 36499 lbs | | | |
| 1 | G | | 1 | wa | PL 16x1425 | 23 | 084 | (M270M-345WT2) | (H2-3) | | |
| 1 | J | | 1 | wb | PL 16x1425 | 21 | 396 | (M270M-345WT2) | (H2-3) | | |
| 1 | N | | 1 | ta | PL 22x400 | 21 | 336 | | | | |
| 1 | L | | 1 | tb | PL 22x400 | 23 | 123 | | | | |
| 1 | E | | 1 | ba | PL 22x450 | 9 | 460 | (M270M-345WT2) | (H2-3) | | |
| 1 | A | | 1 | bb | PL 40x450 | 25 | 500 | (M270M-345WT2) | (H2-3) | | |
| 1 | C | | 1 | bc | PL 22x450 | 9 | 434 | (M270M-345WT2) | (H2-3) | | |
| 2 | B | | 4 | x1a | PL 20x190 | 1 | 425 | | | | |
| 2 | C | | 5 | x1c | PL 14x180 | 1 | 425 | | | | |
| 2 | C | | 5 | x1d | PL 14x180 | 1 | 425 | | | | |




RECEIVED
OK'D BY Jwc OK'D BY
OCT 2 0 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☐ Reviewed ☑ Furnish as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc. Date 10/19/04
By Steven F. Dellea

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUT FOR APPROVAL | 9-2-04 | | | | | | | | | |
| OUT FOR APPROVAL | | | | | | | | | | |
| ISSUED TO SHOP | | | | | | | | | | |
| FIELD & OFFICE | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 15/16ø" (24mm) (UN)
SHOP BOLTS:

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

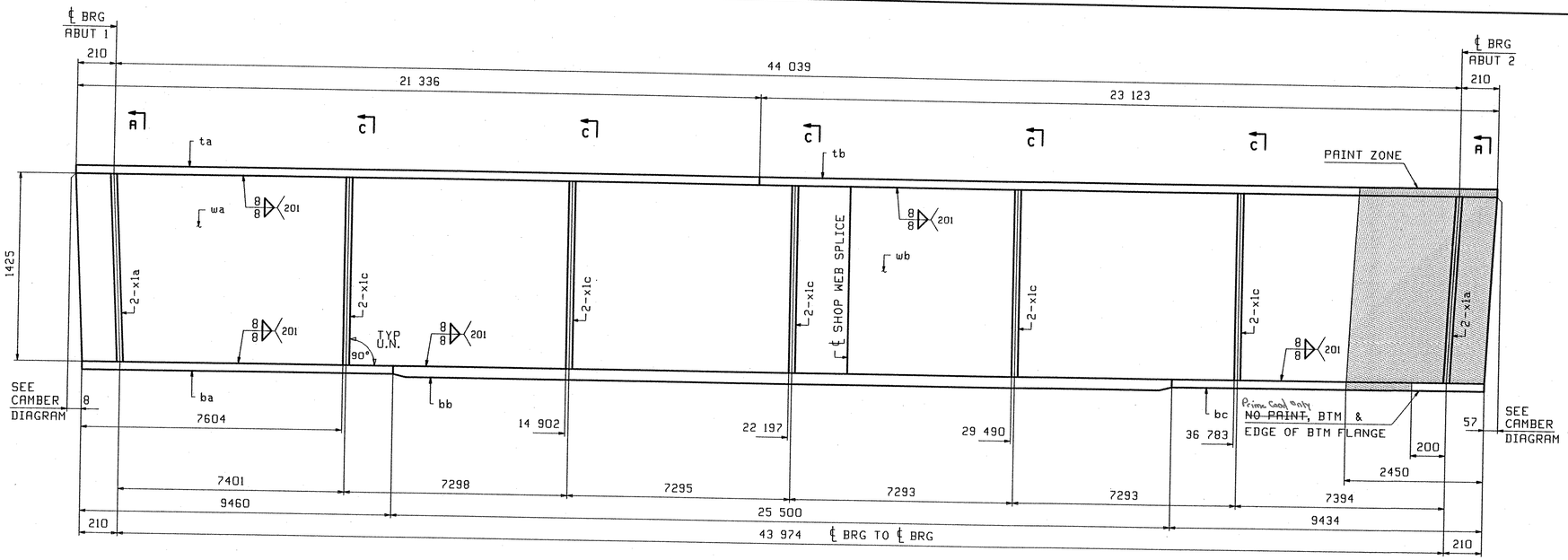
DESCRIPTION: GIRDER - 2G2A
JOB: VT. ROUTE 118 OVER TROUT RIVER
TOWN OF BERKSHIRE, VT
FRANKLIN COUNTY
TENSOR 2475
PROJ NO. BRF-RS 0283(7)
CUSTOMER: A.L. ST. ONGE

| | |
|---|---|
| DRAWN BY | DATE |
| AB | 07/27/04 |
| CHKD BY | |
| PCP | 07/30/04 |
| APPROV BY | |
| SUPERVISOR | W. J. GATTI |
| Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

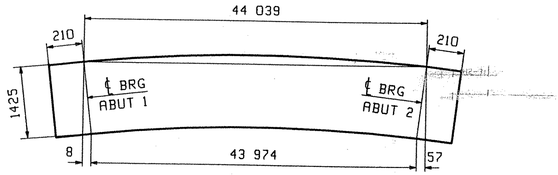
| JOB NO. | DRG. NO. |
|---|---|
| 222 | 2 |
| 156 SS | REV. △ |

PCP Tue Aug 3 Outlet EST 2004 /users/pw2475-2 : Rev0

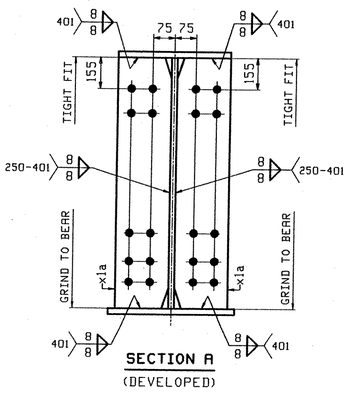



## ONE - GIRDER - 3G3A

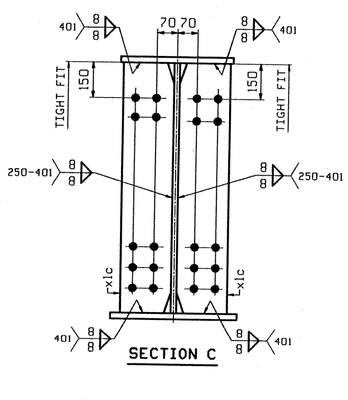
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.




ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1




SECTION A
(DEVELOPED)




SECTION C

| ABM INFO | | SHIP | BILL OF MATERIAL | | | | | JOB NO. | DRAWING NO. | REV. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 3 | |
| PAGE | LINE | MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | WT | PROCUREMENT NOTES |
| | | 3G3A | 1 | | GIRDER | | | | 16356 kg 36499 lbs | |
| 1 | G | | 1 | wa | PL 16x1425 | 23 | 084 | (M270M-345WT2) | (H2-3) | |
| 1 | J | | 1 | wb | PL 16x1425 | 21 | 396 | (M270M-345WT2) | (H2-3) | |
| 1 | N | | 1 | ta | PL 22x400 | 21 | 336 | | | |
| 1 | L | | 1 | tb | PL 22x400 | 23 | 123 | | | |
| 1 | E | | 1 | ba | PL 22x450 | 9 | 460 | (M270M-345WT2) | (H2-3) | |
| 1 | A | | 1 | bb | PL 40x450 | 25 | 500 | (M270M-345WT2) | (H2-3) | |
| 1 | C | | 1 | bc | PL 22x450 | 9 | 434 | (M270M-345WT2) | (H2-3) | |
| 2 | B | | 4 | x1a | PL 20x190 | 1 | 425 | | | |
| 2 | C | | 10 | x1c | PL 14x180 | 1 | 425 | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUT FOR APPROVAL | 9-2-04 | | | | | | | | | |
| OUT FOR APPROVAL | | | | | | | | | | |
| ISSUED TO SHOP | | | | | | | | | | |
| FIELD & OFFICE | | | | | | | | | | |
| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | 15/16" ø (24mm) (UN) | |

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

RECEIVED
CK'D BY JWC CK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☐ Reviewed ☐ Furnish as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

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McFarland-Johnson, Inc.
Date 10/18/04
By Steven J. Dolan

| | |
|---|---|
| DESCRIPTION: | GIRDER - 3G3A |
| JOB: | VT. ROUTE 118 OVER TROUT RIVER<br>TOWN OF BERKSHIRE, VT<br>FRANKLIN COUNTY |
| PROJ NO. | BRF-RS 0283(7) |
| CUSTOMER: | A.L. ST. ONGE |

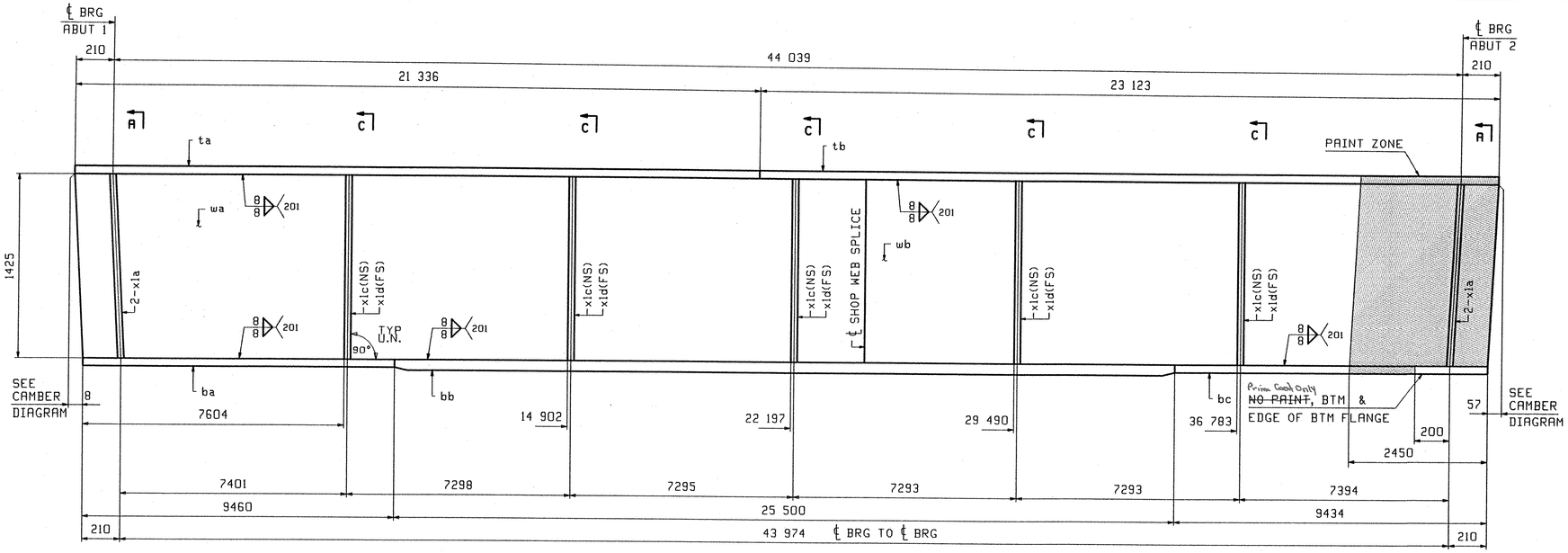
TENSOR 2475

| | |
|---|---|
| DRAWN BY | DATE |
| AB | 07/27/04 |
| CHKD BY | |
| PCP | 07/30/04 |
| APPROV BY | |
| SUPERVISOR | W. J. GATTI |
| Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

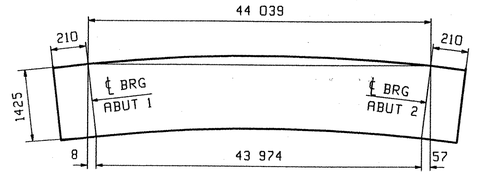
| JOB NO. | DRG. NO. |
|---|---|
| 222 | 3 |
| 157 55 | REV. △ |

PCP Tue Aug 3 10:58:58 EDT 2004 /users/jobs/2475/3 : Rev0

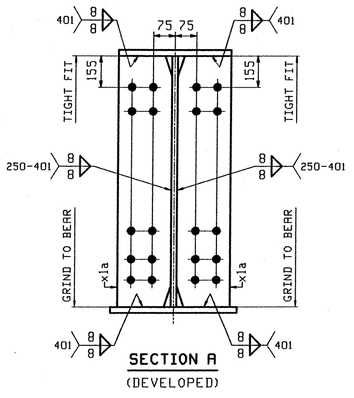



## ONE - GIRDER - 4G4A

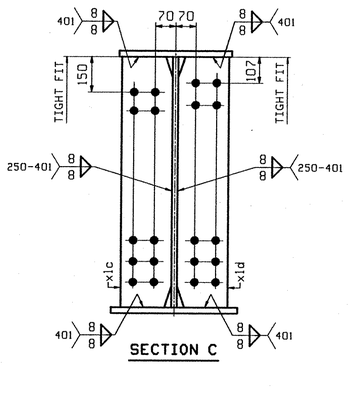
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.




ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1




SECTION A
(DEVELOPED)




SECTION C

| ABM INFO | | SHIP | BILL OF MATERIAL | | | | | JOB NO. | DRAWING NO. | | REV. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 4 | | |
| PAGE | LINE | MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | WT | PROCUREMENT NOTES | |
| | | | | | | | | | | | |
| | | 4G4A | 1 | | GIRDER | | | | 16556 kg 36499 lbs | | |
| | | | | | | | | | | | |
| 1 | G | | 1 | wa | PL 16x1425 | 23 | 084 | (M270M-345WT2) | (H2-3) | | |
| 1 | J | | 1 | wb | PL 16x1425 | 21 | 396 | (M270M-345WT2) | (H2-3) | | |
| 1 | N | | 1 | ta | PL 22x400 | 21 | 336 | | | | |
| 1 | L | | 1 | tb | PL 22x400 | 23 | 123 | | | | |
| 1 | E | | 1 | ba | PL 22x450 | 9 | 460 | (M270M-345WT2) | (H2-3) | | |
| 1 | A | | 1 | bb | PL 40x450 | 25 | 500 | (M270M-345WT2) | (H2-3) | | |
| 1 | C | | 1 | bc | PL 22x450 | 9 | 434 | (M270M-345WT2) | (H2-3) | | |
| | | | | | | | | | | | |
| 2 | B | | 4 | x1a | PL 20x190 | 1 | 425 | | | | |
| 2 | C | | 5 | x1c | PL 14x180 | 1 | 425 | | | | |
| 2 | C | | 5 | x1d | PL 14x180 | 1 | 425 | | | | |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUT FOR APPROVAL | 9-2-04 | | | | | | | | | |
| OUT FOR APPROVAL | | | | | | | | | | |
| ISSUED TO SHOP | | | | | | | | | | |
| FIELD & OFFICE | | | | | | | | | | |
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| | | | | | | | | | | |
| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | 15/16ø" (24mm) (UN) | |

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

| | | | |
|---|---|---|---|
| DESCRIPTION: | GIRDER - 4G4A | DRAWN BY | DATE |
| JOB: | VT. ROUTE 118 OVER TROUT RIVER | AB | 07/27 |
| | TOWN OF BERKSHIRE, VT | CHKD BY | |
| | FRANKLIN COUNTY | PCP | 07/30/04 |
| TENSOR 2475 | | APPROV BY | |
| PROJ NO. | BRF-RS 0283(7) | SUPERVISOR | W. J. GATTI |
| CUSTOMER: | A.L. ST. ONGE | Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.** JOB NO. 222 DRG. NO. 4
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179
158 SS REV. △

RECEIVED
CK'D BY JWC CK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☐ Reviewed ☑ Furnish as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

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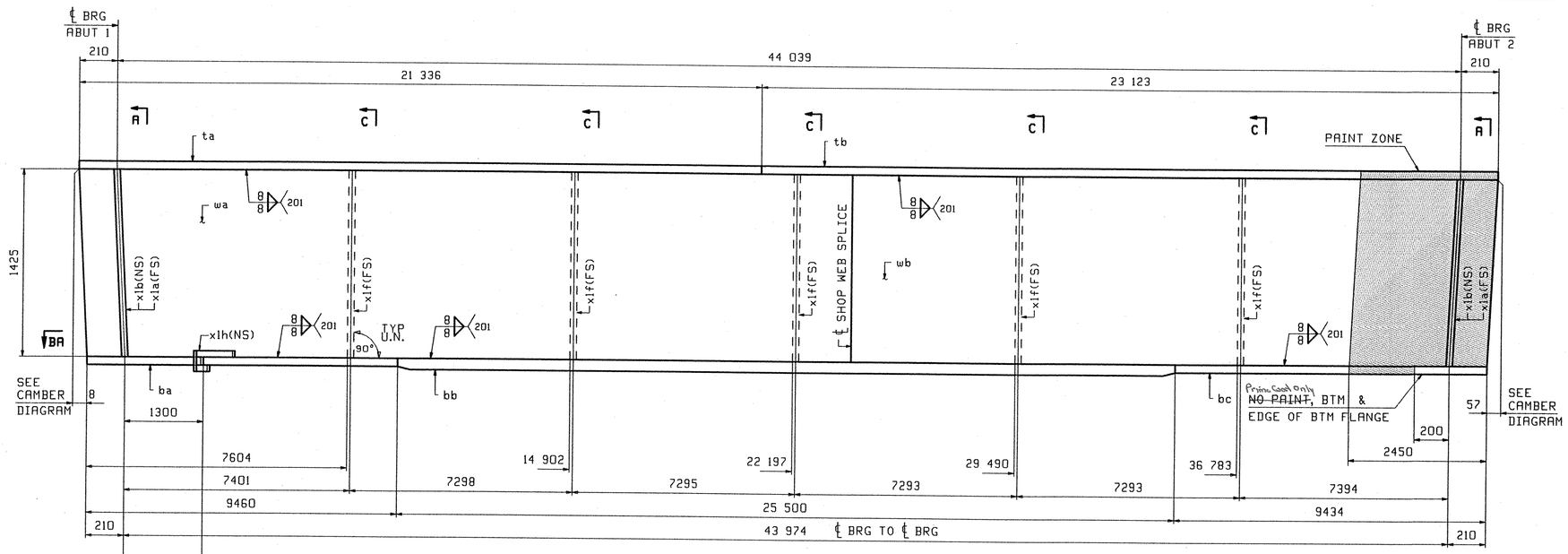
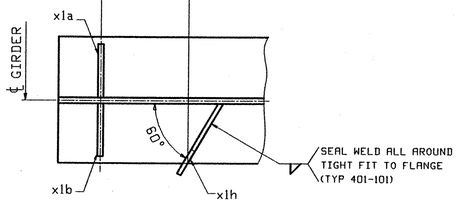
McFarland-Johnson, Inc.
Date 10/19/04
By Steven F. Dellis

PCP Tue Aug 3 10:58:28 CDT 2004 /users/pcp/2475-1.0w=0

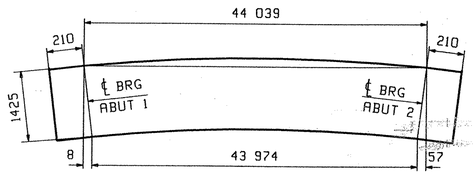


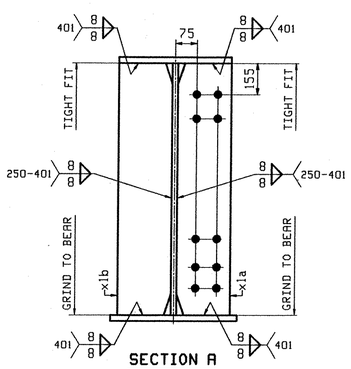

## SECTION-BA

## ONE - GIRDER - 5G5A

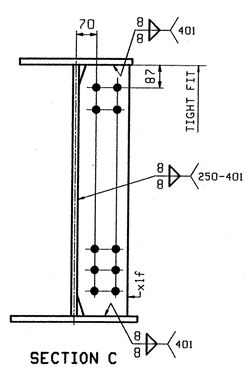
FOR GIRDER STANDARD DETAILS SEE DRAWING X1.
FOR CAMBER DIAGRAM SEE DRAWING C1.
FOR GENERAL NOTES SEE DRAWING GN1.
H2-3 DENOTES MATERIAL SUBJECT TO CHARPY V-NOTCH TESTING.




ORIENTATION DIAGRAM
FOR CAMBER SEE DWG. C1




## SECTION A
(DEVELOPED)




## SECTION C

| ABM INFO | | SHIP | BILL OF MATERIAL | | | | | JOB NO. | DRAWING NO. | | REV. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 5 | | |
| PAGE | LINE | MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | WT | PROCUREMENT NOTES | |
| | | 5G5A | 1 | | GIRDER | | | | 16416 kg 36191 lbs | | |
| 1 | G | | 1 | wa | PL 16x1425 | 23 | 084 | (M270M-345W H2) | (H2-3) | | |
| 1 | J | | 1 | wb | PL 16x1425 | 21 | 396 | (M270M-345W H2) | (H2-3) | | |
| 1 | N | | 1 | ta | PL 22x400 | 21 | 336 | | | | |
| 1 | L | | 1 | tb | PL 22x400 | 23 | 123 | | | | |
| 1 | E | | 1 | ba | PL 22x450 | 9 | 460 | (M270M-345W H2) | (H2-3) | | |
| 1 | A | | 1 | bb | PL 40x450 | 25 | 500 | (M270M-345W H2) | (H2-3) | | |
| 1 | C | | 1 | bc | PL 22x450 | 9 | 434 | (M270M-345W H2) | (H2-3) | | |
| 2 | B | | 2 | x1a | PL 20x190 | 1 | 425 | | | | |
| 2 | B | | 2 | x1b | PL 20x190 | 1 | 425 | | | | |
| 2 | C | | 5 | x1f | PL 14x180 | 1 | 425 | | | | |
| 2 | D | | 1 | x1h | PL 6x75 | 0 | 310 | | | | |

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. |
|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9-2-04 | | | | |
| | OUT FOR APPROVAL | | | | | |
| | ISSUED TO SHOP | | | | | |
| | FIELD & OFFICE | | | | | |

| NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|
| | | | | |

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 15 16Ø" (24mm) (UN)
SHOP BOLTS:

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

RECEIVED
CK'D BY JCW CK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☐ Reviewed ☐ Rejected
☑ Furnish as Corrected ☐ Revise and Resubmit ☐ Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner.

McFarland-Johnson, Inc.
Date 10/18/04
By Steven T. DeBie

DESCRIPTION: GIRDER - 5G5A
JOB: VT. ROUTE 118 OVER TROUT RIVER
TOWN OF BERKSHIRE, VT
FRANKLIN COUNTY
PROJ NO. BRF-RS 0283(7)
CUSTOMER: A.L. ST. ONGE

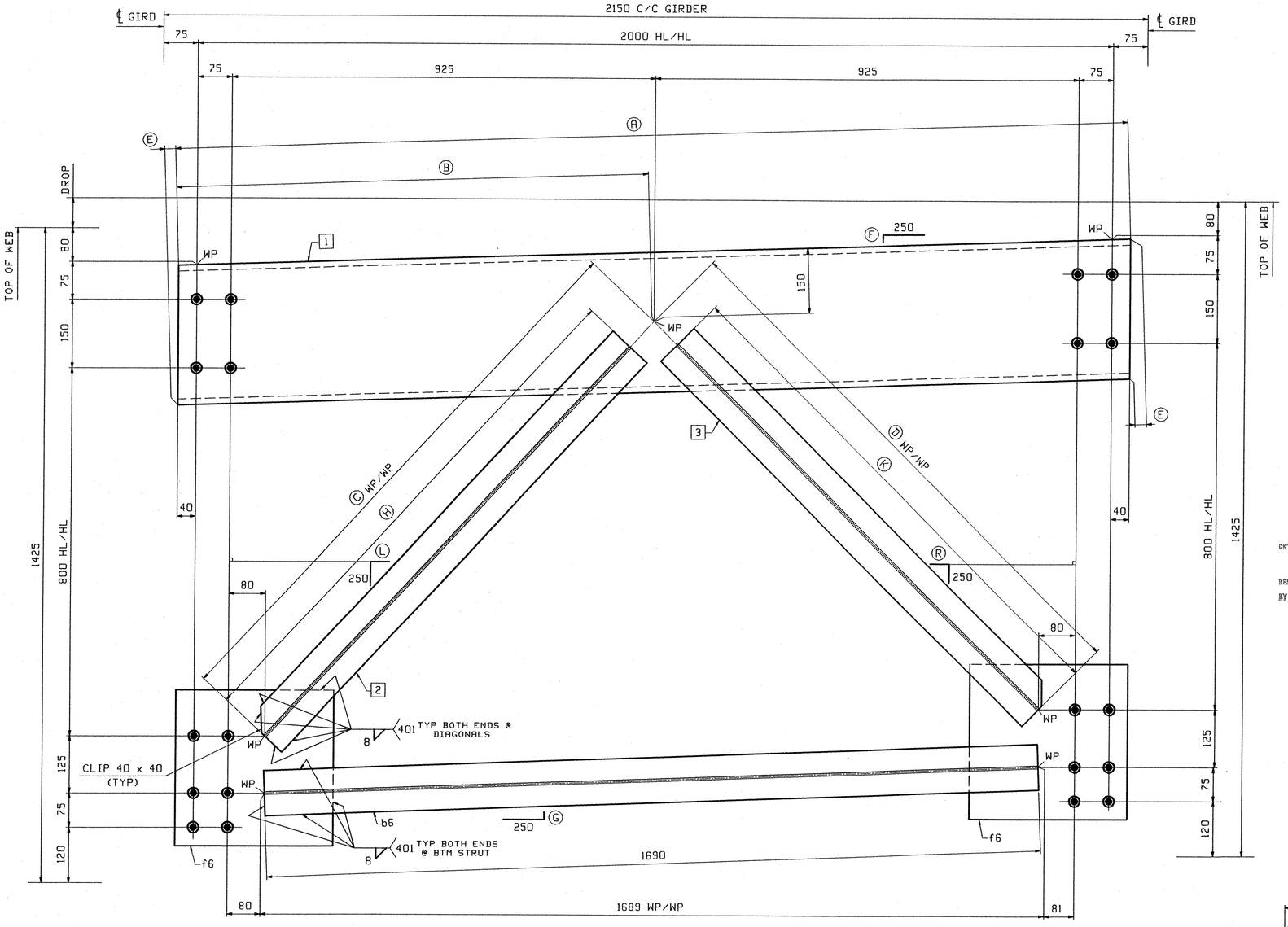
| | |
|---|---|
| DRAWN BY | DATE |
| AB | 07/27/04 |
| CHK'D BY | |
| PCP | 07/30/04 |
| APPROV BY | |
| SUPERVISOR | W. J. GATTI |
| Q.A. | |

TENSOR 2475

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | 5 |
| 159 SS | REV. △ |

PCP Tue Aug 3 10:16:27 EDT 2004 /users/jobs/2475/5 : RevO

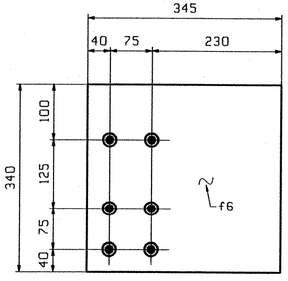



## END CROSSFRAMES

(@ ABUTMENTS LOOKING AWAY FROM BACKWALL)

| | MARK | REQ'D | DROP | Ⓐ | Ⓑ | Ⓒ | Ⓓ | Ⓔ | Ⓕ | Ⓖ | Ⓗ | Ⓚ | Ⓛ | Ⓡ | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G1-G2 (ABUT1) | 6CF1 | 1 | 63 | 2081 | 1036 | 1239 | 1194 | 10 | 8 | 9 | 1160 | 1120 | 233 | 250 | a6 | c6 | d6 |
| G3-G2 (ABUT1) | 6CF2 | 1 | 43 | 2080 | 1037 | 1232 | 1201 | 7 | 5 | 6 | 1155 | 1130 | 236 | 248 | g6 | h6 | k6 |
| G5-G4 (ABUT2) | 6CF3 | 1 | 63 | 2081 | 1036 | 1239 | 1194 | 10 | 8 | 9 | 1160 | 1120 | 233 | 250 | a6 | c6 | d6 |
| G4-G3 (ABUT2) | 6CF4 | 1 | 43 | 2080 | 1037 | 1232 | 1201 | 7 | 5 | 6 | 1155 | 1130 | 236 | 248 | g6 | h6 | k6 |

PAINTED




DETAIL OF f6

| ABM INFO PAGE | ABM INFO LINE | SHIP MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | WT | PROCUREMENT NOTES |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 6CF1 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | a6 | C 310x37 | 2 | 091 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | c6 | WT 100x11 | 1 | 160 | (M270M-345W) | | |
| 2 | J | | 1 | d6 | WT 100x11 | 1 | 120 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |
| | | 6CF2 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | g6 | C 310x37 | 2 | 087 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | h6 | WT 100x11 | 1 | 155 | (M270M-345W) | | |
| 2 | J | | 1 | k6 | WT 100x11 | 1 | 130 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |
| | | 6CF3 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | a6 | C 310x37 | 2 | 091 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | c6 | WT 100x11 | 1 | 160 | (M270M-345W) | | |
| 2 | J | | 1 | d6 | WT 100x11 | 1 | 120 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |
| | | 6CF4 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | g6 | C 310x37 | 2 | 087 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | h6 | WT 100x11 | 1 | 155 | (M270M-345W) | | |
| 2 | J | | 1 | k6 | WT 100x11 | 1 | 130 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |

BILL OF MATERIAL — JOB NO. — DRAWING NO. 6 — REV.

RECEIVED
OK'D BY JWC OK'D BY
OCT 20 2004
RESUBMIT APPROVED CSW
BY DATE 11-01-04

Furnish as Corrected
Revise and Resubmit
Submit Specified Item
Reviewed
Rejected

This shop drawing is only for general conformance with the design concept and the information given in the contract documents. Contractor is responsible for dimensions which he shall confirm and correlate at the jobsite; for fabrication processes and techniques of construction; for coordination of the Work with that of all other trades; and for performing all work in a safe and satisfactory manner.

McFarland-Johnson, Inc.
Date 10/18/04
By Steven J. Dale

NOTES:
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUT FOR APPROVAL | 9204 | | | | | | | | | |
| OUT FOR APPROVAL | | | | | | | | | | |
| ISSUED TO SHOP | | | | | | | | | | |
| FIELD & OFFICE | | | | | | | | | | |

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|

| MATERIAL: | ELECTRODES: | HOLES: | SHOP BOLTS: |
|---|---|---|---|
| M270M-345W | | 15/16"Ø U.N. | NONE |

SURFACE PREP. & PAINT:
STEEL WITHIN 245D OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

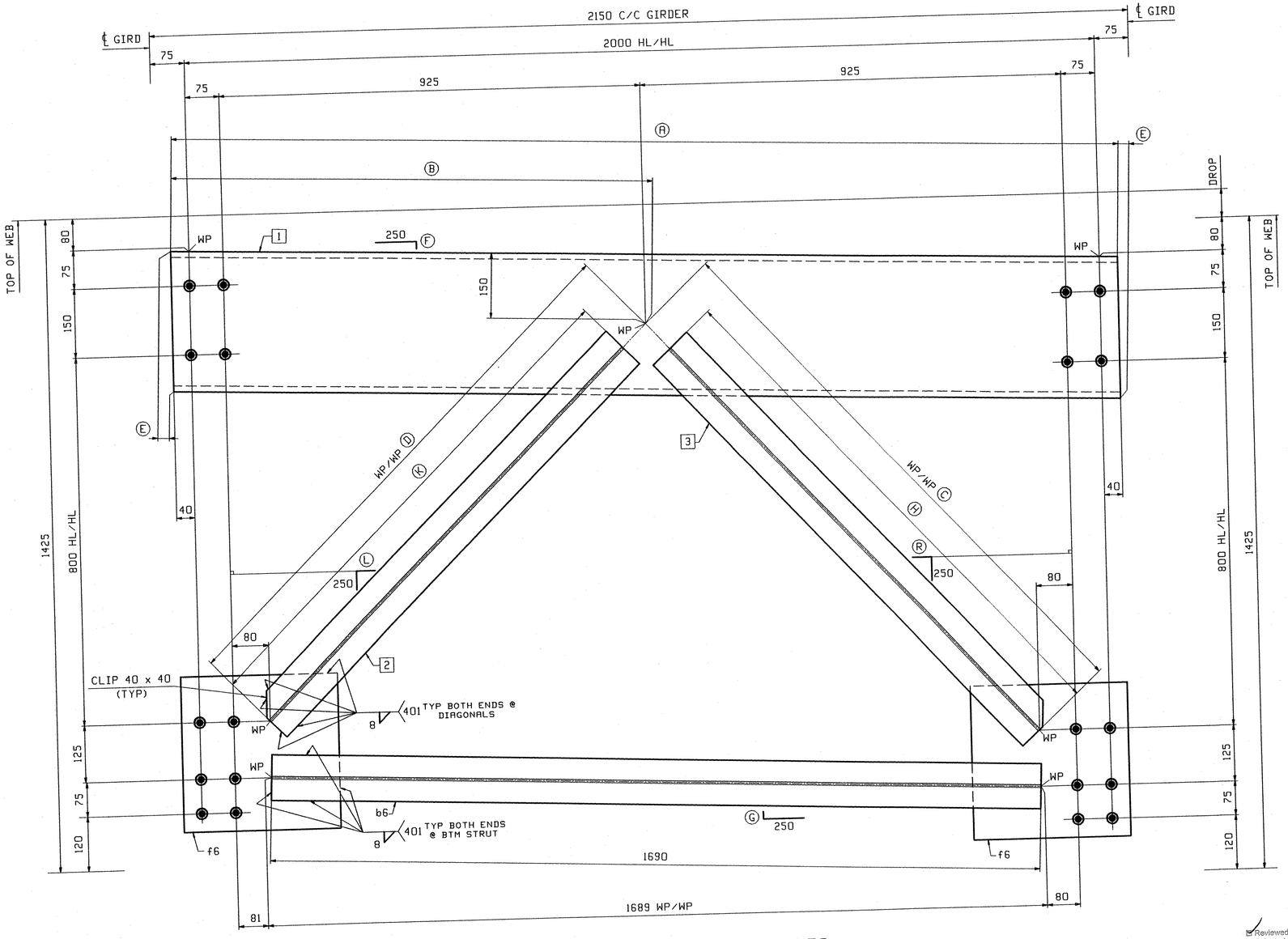
| DESCRIPTION: END CROSSFRAMES | DRAWN BY | DATE |
|---|---|---|
| JOB: VT. ROUTE 118 OVER TROUT RIVER | AB | 07/27/04 |
| TOWN OF BERKSHIRE, VT | CHKD BY | |
| FRANKLIN COUNTY | PCP | 08/02/04 |
| | APPROV BY | |
| PROJ NO. BRF-RS 0283(7) | SUPERVISOR | W. J. GATTI |
| CUSTOMER: A.L. ST. ONGE | Q.A. | |

TENSOR 2475

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | 6 |
| 160 SS | REV. △ |

PCP Tue May 3 08:46:46 EST 2005 /users/jobs/2475/6 | RevD




## END CROSSFRAMES

(@ ABUTMENTS LOOKING AWAY FROM BACKWALL)

| | MARK | REQ'D | DROP | A | B | C | D | E | F | G | H | K | L | R | 1 | 2 | 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G5-G4 (ABUT1) | 7CF1 | 1 | 63 | 2081 | 1045 | 1239 | 1194 | 10 | 8 | 9 | 1160 | 1120 | 250 | 233 | a7 | c7 | d7 |
| G4-G3 (ABUT1) | 7CF2 | 1 | 43 | 2080 | 1043 | 1232 | 1201 | 7 | 5 | 6 | 1155 | 1130 | 248 | 236 | g7 | h7 | k7 |
| G2-G1 (ABUT2) | 7CF3 | 1 | 63 | 2081 | 1045 | 1239 | 1194 | 10 | 8 | 9 | 1160 | 1120 | 250 | 233 | a7 | c7 | d7 |
| G3-G2 (ABUT2) | 7CF4 | 1 | 43 | 2080 | 1043 | 1232 | 1201 | 7 | 5 | 6 | 1155 | 1130 | 248 | 236 | g7 | h7 | k7 |

PAINTED

| ABM INFO | | SHIP | BILL OF MATERIAL | | | | | JOB NO. | DRAWING NO. | REV. |
|---|---|---|---|---|---|---|---|---|---|---|
| PAGE | LINE | MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | WT | PROCUREMENT NOTES |
| | | | | | | | | | | |
| | | 7CF1 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | a7 | C 310x37 | 2 | 091 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | c7 | WT 100x11 | 1 | 120 | (M270M-345W) | | |
| 2 | J | | 1 | d7 | WT 100x11 | 1 | 160 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |
| | | 7CF2 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | g7 | C 310x37 | 2 | 087 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | h7 | WT 100x11 | 1 | 130 | (M270M-345W) | | |
| 2 | J | | 1 | k7 | WT 100x11 | 1 | 155 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |
| | | 7CF3 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | a7 | C 310x37 | 2 | 091 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | c7 | WT 100x11 | 1 | 120 | (M270M-345W) | | |
| 2 | J | | 1 | d7 | WT 100x11 | 1 | 160 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |
| | | 7CF4 | 1 | | END CROSSFRAME | | | | 145 kg 319 lbs | |
| 2 | G | | 1 | g7 | C 310x37 | 2 | 087 | (M270M-345W) | | |
| 2 | H | | 1 | b6 | WT 100x11 | 1 | 690 | (M270M-345W) | | |
| 2 | J | | 1 | h7 | WT 100x11 | 1 | 130 | (M270M-345W) | | |
| 2 | J | | 1 | k7 | WT 100x11 | 1 | 155 | (M270M-345W) | | |
| 2 | K | | 2 | f6 | PL 13x340 | 0 | 345 | (M270M-345W) | | |

RECEIVED
CK'D BY JWK DA'D BY
OCT 2 0 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed
☐ Rejected
☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Items

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on this shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite, information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner

McFarland-Johnson, Inc.
Date 10/28/04
By Steven F. Dellis

NOTES:
FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.
FOR DETAIL OF f6 SEE DRG.6

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. |
|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9.2.04 | | | | |
| | OUT FOR APPROVAL | | | | | |
| | ISSUED TO SHOP | | | | | |
| | FIELD & OFFICE | | | | | |

| NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|
| | | | | |

MATERIAL: M270M-345W
ELECTRODES:
HOLES: 15/16 Ø U.N.
SHOP BOLTS: NONE

SURFACE PREP. & PAINT:
STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.
ALL OTHER STEEL SHALL BE UNPAINTED.

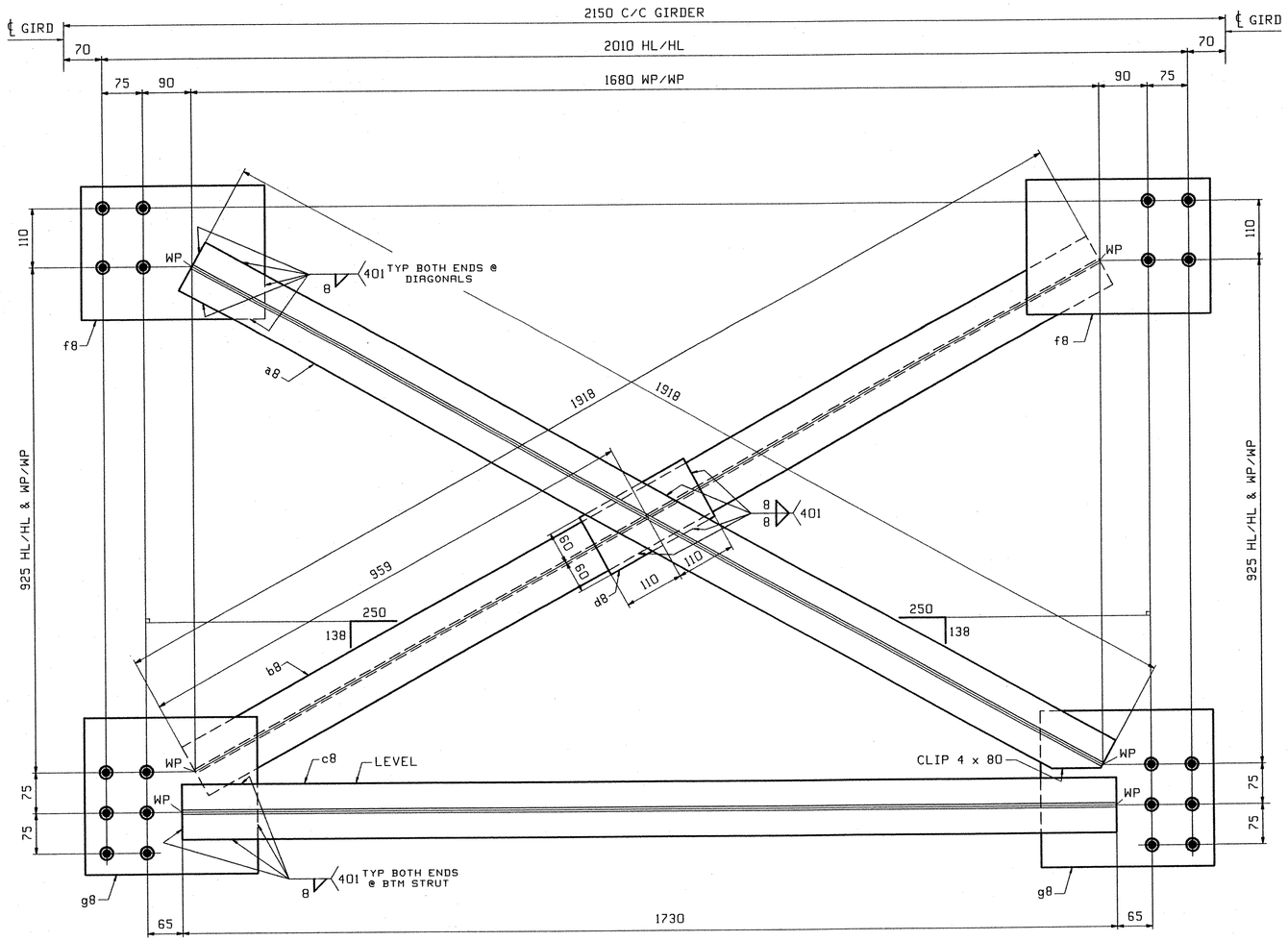
DESCRIPTION: END CROSSFRAME
JOB: VT. ROUTE 118 OVER TROUT RIVER
TOWN OF BERKSHIRE, VT
FRANKLIN COUNTY
TENSOR 2475
PROJ NO. BRF-RS 0283(7)
CUSTOMER: A.L. ST. ONGE

| | DRAWN BY | DATE |
|---|---|---|
| | AB | 07/29/04 |
| | CHK'D BY | |
| | PCP | 08/02/04 |
| | APPROV BY | |
| | SUPERVISOR | W. J. GATTI |
| | Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

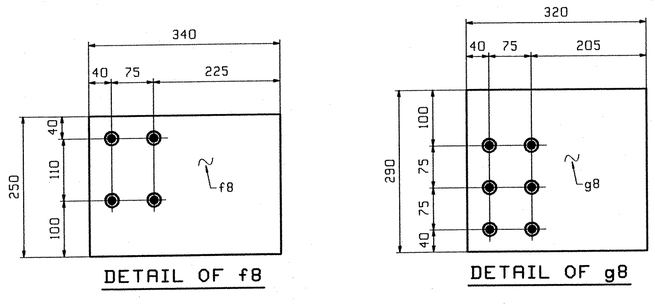
| JOB NO. | DRG. NO. |
|---|---|
| 222 | 7 |
| 761 55 | REV. △ |

PCP Tue Aug 3 10:16:56 CST 2004 /users/jobs/2475/7 : RevD




## 20 ~ INTERMEDIATE CROSSFRAMES ~ 8CF1

(LOOKING UP STATION)




| ABM INFO | | SHIP | BILL OF MATERIAL | | | | | JOB NO. | DRAWING NO. | | REV. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PAGE | LINE | MARK | QTY | MARK | MATERIAL | LENGTH m | LENGTH mm | REMARKS | 8 WT | PROCUREMENT NOTES | |
| | | | | | | | | | | | |
| | | 8CF1 | 20 | | INT.CROSSFRAMES | | | | 100 kg 220 lbs | | |
| 2 | P | | 20 | a8 | WT 100x11 | 1 | 918 | (M270M-345W) | | | |
| 2 | P | | 20 | b8 | WT 100x11 | 1 | 918 | (M270M-345W) | | | |
| 2 | N | | 20 | c8 | WT 100x11 | 1 | 730 | (M270M-345W) | | | |
| 2 | S | | 20 | d8 | PL 13x120 | 0 | 220 | (M270M-345W) | | | |
| 2 | Q | | 40 | f8 | PL 13x250 | 0 | 340 | (M270M-345W) | | | |
| 2 | R | | 40 | g8 | PL 13x290 | 0 | 320 | (M270M-345W) | | | |

NOTES:

FOR GENERAL NOTES & WELD PROCEDURES SEE DRAWING GN1.

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. |
|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 9-2-04 | | | | |
| | OUT FOR APPROVAL | | | | | |
| | ISSUED TO SHOP | | | | | |
| | FIELD & OFFICE | | | | | |

| NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|
| | | | | |

MATERIAL: M270M-345W

ELECTRODES:

HOLES: 15/16" Ø U.N.

SHOP BOLTS: NONE

SURFACE PREP. & PRINT:

STEEL WITHIN 2450 OF ABUTMENT 2 SHALL BE PAINTED PER NOTES ON GN1.

ALL OTHER STEEL SHALL BE UNPAINTED.

RECEIVED
CK'D BY JWC OK'D BY
OCT 20 2004
RESUBMIT APPROVED
BY DATE 11-01-04

☑ Reviewed ☐ Furnish as Corrected
☐ Rejected ☐ Revise and Resubmit
☐ Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for dimensions to be confirmed and correlated at the jobsite, information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction, coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner.

McFarland-Johnson, Inc.
Date 10/18/04
By Steven J. Dellea

DESCRIPTION: INT. CROSSFRAMES

JOB: VT. ROUTE 118 OVER TROUT RIVER
TOWN OF BERKSHIRE, VT
FRANKLIN COUNTY

TENSOR 225

PROJ NO. BRF-RS 0283(7)

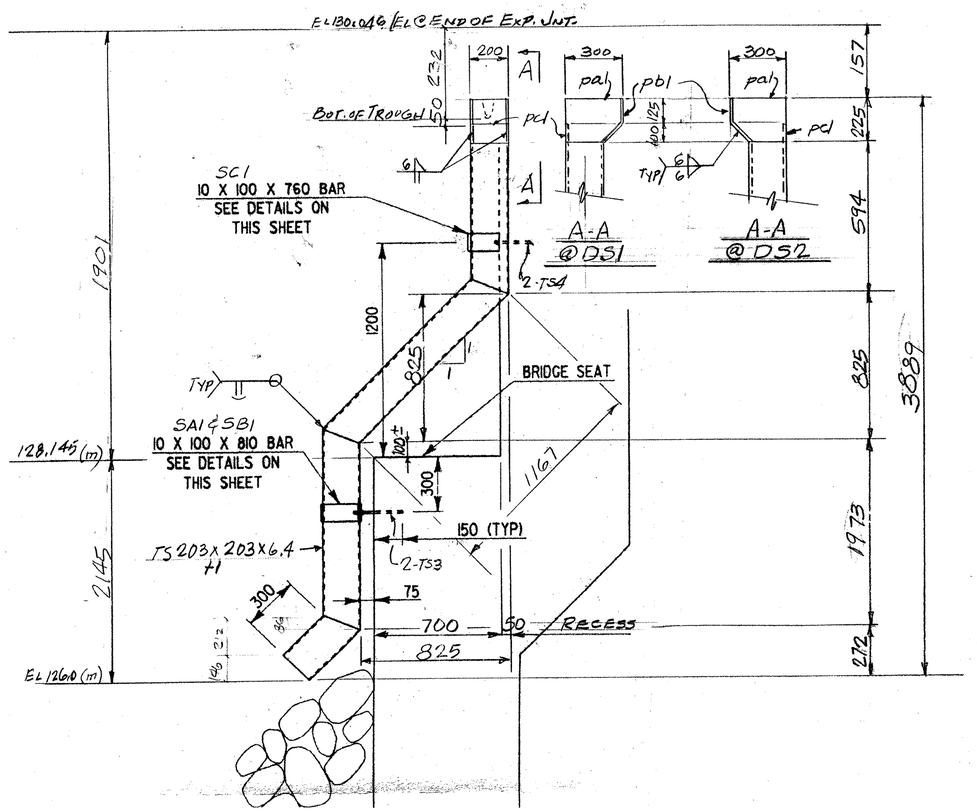
CUSTOMER: A.L. ST. ONGE

| DRAWN BY | DATE |
|---|---|
| AB | 07/29 |
| CHKD BY | |
| PCP | 08/02/04 |
| APPROV BY | |
| SUPERVISOR | W. J. GATTI |
| Q.A. | |

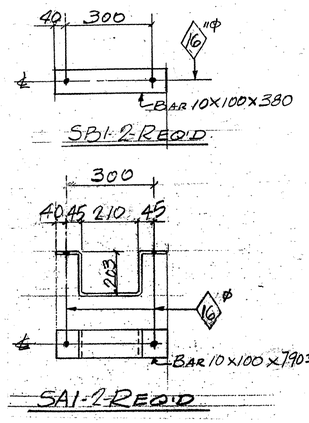
**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

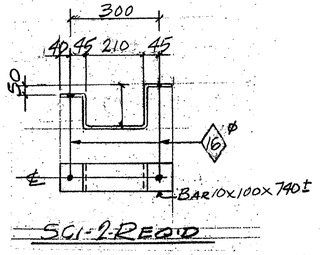
| JOB NO. | DRG. NO. |
|---|---|
| 222 | 8 |
| 16255 | REV. |

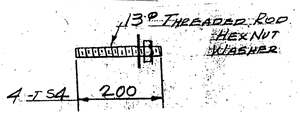
PCP Tue Aug 3 10:17:06 EDT 2004 /users/jobs/2475/8 : Rev=0

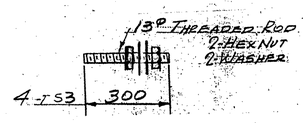



DS1 - ONE REQ'D (@ NORTH END OF ABUT. NO. 2)
DS2 - ONE REQ'D (@ SOUTH DO DO )




VTrans
RECEIVED
OK'D BY _____ OK'D BY _____
MAY 10 2005
RESUBMIT _____ APPROVED
BY DATE 5/12/2005

| ABM INFO | | SHOP BILL | | | | JOB NO. 222 | DRG. NO. M1 |
|---|---|---|---|---|---|---|---|
| PAGE | LINE | NO. | DESCRIPTION | PT. MK. | ASSEM. MARK | SHIPPING MARK | REMARKS | WEIGHT |
| | | 1 | DOWNSPOUT | 4050 | | DS1 | | — |
| | | 1 | DO | 4050 | | DS2 | | — |
| | | 2 | TS 203 x 203 x 6.4 | 4260± | H1 | | A500-A501 | |
| | | 4 | ϕ 6.4 x 225 | 294 | pa1 | | | |
| | | 2 | ϕ 6.4 x 188 | 200 | pb1 | | BEND | |
| | | 2 | ϕ 6.4 x 100 | 188 | pc1 | | | |
| | | 2 | BAR 10 x 100 | 760± | | SA1 | BEND | |
| | | 2 | DO | 380 | | SB1 | | |
| | | 2 | DO | 540 | | SB1 | BEND | |
| | | 4 | 13ϕ THREADED ROD | 300 | | TS3 | | |
| | | 4 | DO | 200 | | TS4 | | |
| | | 12 | 13ϕ HEX NUTS | | | | | |
| | | 12 | 13ϕ WASHERS | | | | | |

PAY ITEM 510.10

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | OUT FOR APPROVAL | 3-8-05 | | | | | | | | | |
| | OUT FOR APPROVAL final | 5-9-05 | | | | | | | | | |
| | ISSUED TO SHOP | | | | | | | | | | |
| | FIELD & OFFICE | | | | | | | | | | |

PROJECT NO. BRF-RS-0283(3) STATE PROJECT NO. 26
MATERIAL AASHTO M270 Gr 250 ELECTRODES: PER PROC. HOLES: AS NOTED SHOP BOLTS: 13ϕ
SURFACE PREP. & PAINT:
GALV. AFTER FAB. (ASTM-A123)

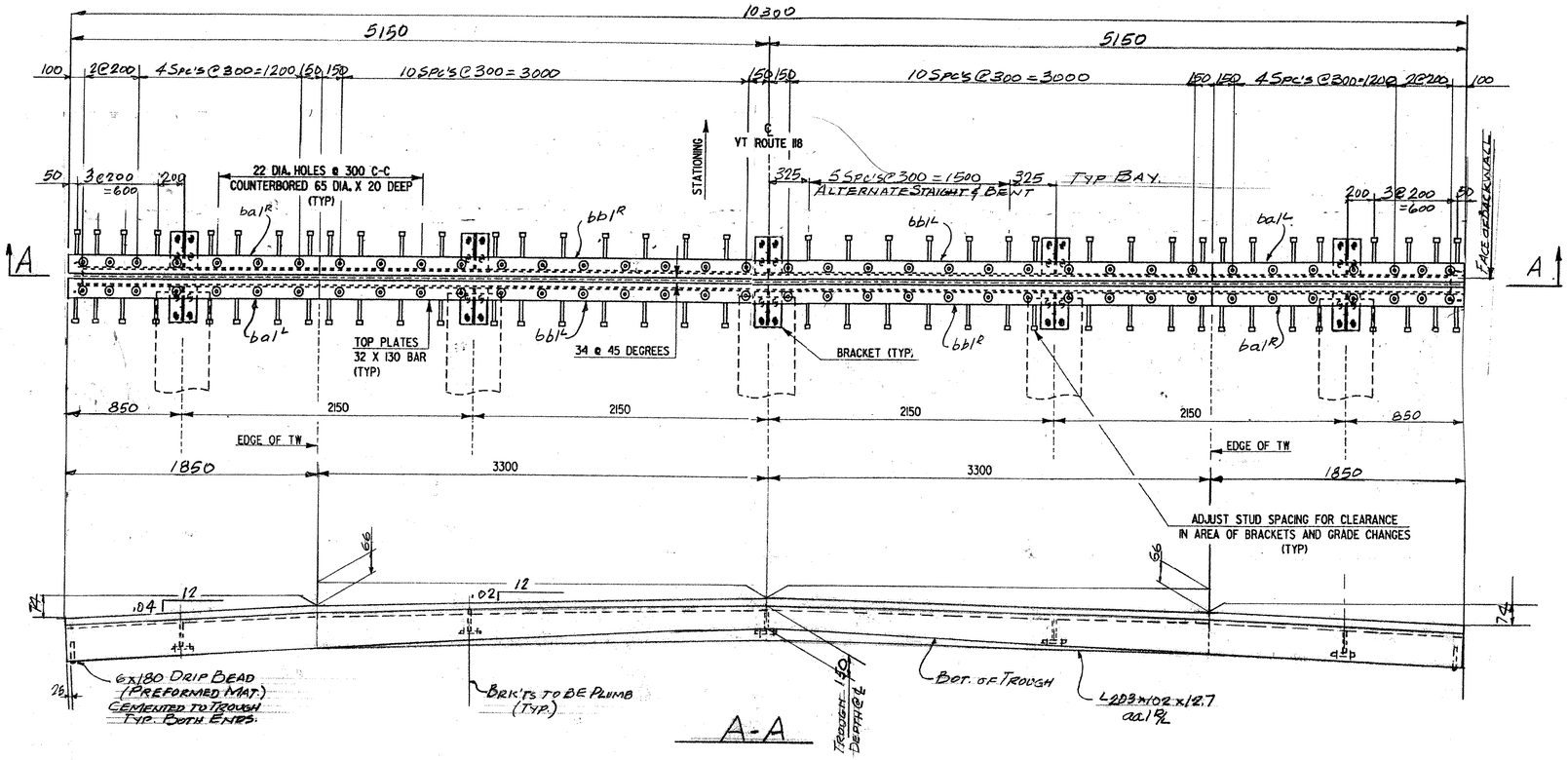
DESCRIPTION: DOWNSPOUTS - ABUT. NO. 2
JOB: VT. ROUTE 118 OVER TROUT RIVER BERKSHIRE, VT.
CUSTOMER: A. L. STONGE

| | DRAWN BY | DATE |
|---|---|---|
| | J.P.F | 3-05 |
| | CHKD. BY | |
| | E J | |
| | APPROV BY | |
| | Q.A. | |

**CASCO BAY STEEL STRUCTURES, INC.**
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

| JOB NO. | DRG. NO. |
|---|---|
| 222 | M1 |
| 163 | REV. 1 |

1" = 1'-0"

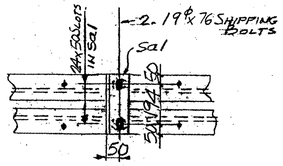



A-A

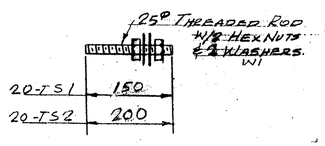
EJI-ONE REQ'D (@ABUT. NO. 2)

| ABM INFO PAGE | LINE | NO. | DESCRIPTION | mm | ASSEM. MARK | SHIPPING MARK | REMARKS | WEIGHT |
|---|---|---|---|---|---|---|---|---|
| | | | | 10300 | | EJ1 | | — |
| | | 2 | L 203x102x12.7 | 10300± | aa1 | | | |
| | | 4 | BAR 32x130 | 1850 | bal^R | | | |
| | | 4 | Do | 3300 | bal^L | | | |
| | | 10 | PL 12x200 | 250 | be1 | | | |
| | | 10 | PL 12x153 | 250 | bf1 | | | |
| | | 72 | 20# H.S. BOLTS | 50 | ma1 | | | |
| | | 72 | 20# CLOSED THREADED ANC. FERRULES | | mb1 | | | |
| | | 64 | 19# ANC. STUDS | 200 | mc1 | | | |
| | | 1 | PREFORMED FABRIC 4 mm X 610 | 10300± | mf1 | | 3 PLY PER SUBSET 207.07 AASHTO M.192-TYPE B | |
| | | 2 | BUTYL RUBBER TAPE 2mm x 75 | 10300± | mg1 | | | |
| | 5 | | PL 12x200 | 230 | | API | | |
| | 20 | | 19# ANC. STUDS | 200 | | | | |
| | 20 | | 25# THREADED ROD | 150 | | TS1 | | |
| | 20 | | Do | 200 | | TS2 | | |
| | | 80 | 25# HEX NUTS | | SHOP | | | |
| | | 80 | PL 10x75 | 75 | W1 | | | |
| | | 7 | L 102x102x10 | 294 | sa1 | | | |
| | | 14 | 19# BOLTS | 76 | SHOP | | | |

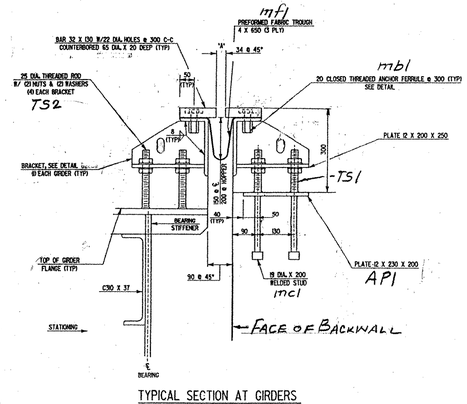
PAY ITEM 516-10



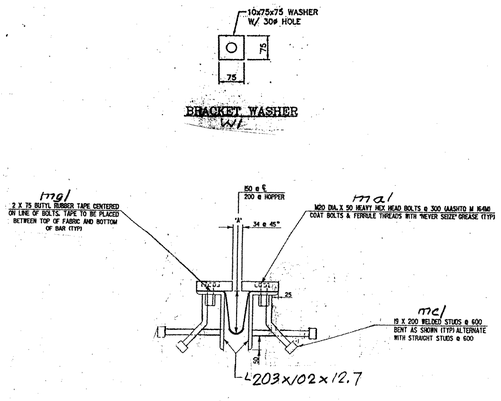

SHIPPING DEVICE
SPACED 1500 O.C. MAX.



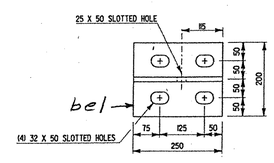

VTrans
RECEIVED
CK'D BY _____ OK'D BY _____
MAY 10 2005
RESUBMIT _____ APPROVED
BY DATE 5/12/2005




TYPICAL SECTION AT GIRDERS

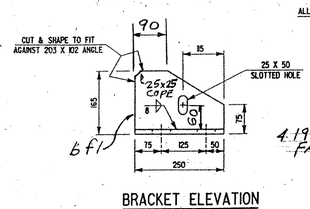



TYPICAL SECTION BETWEEN GIRDERS.




BRACKET PLAN

ANCHOR FERRULE DETAIL




BRACKET ELEVATION

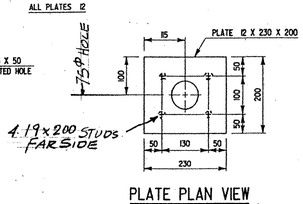



PLATE PLAN VIEW
API-5-REQ'D

PLANS DRAWN USING
METRIC
DIMENSIONS

| OUT FOR APPROVAL | 3-8-05 |
|---|---|
| OUT FOR APPROVAL final | 5-9-05 |
| ISSUED TO SHOP | |
| FIELD & OFFICE | |

| REV. | REMARKS | DATE | DWN | CHK | APP | Q.A. | NO. | DIA. | LGT | TYPE | WASHER |
|---|---|---|---|---|---|---|---|---|---|---|---|

PROJECT NO. BRF-RS 0283(7) STATE PROJECT NO. 26

MATERIAL AASHTO M270 GR 250 | ELECTRODES: PER PROC | HOLES: AS NOTED | SHOP BOLTS: 20#

SURFACE PREP. & PAINT: M164-GALV.

GALV. AFTER FAB. (ASTM-A123)

DESCRIPTION: EXP. JOINT - ABUT. NO. 2

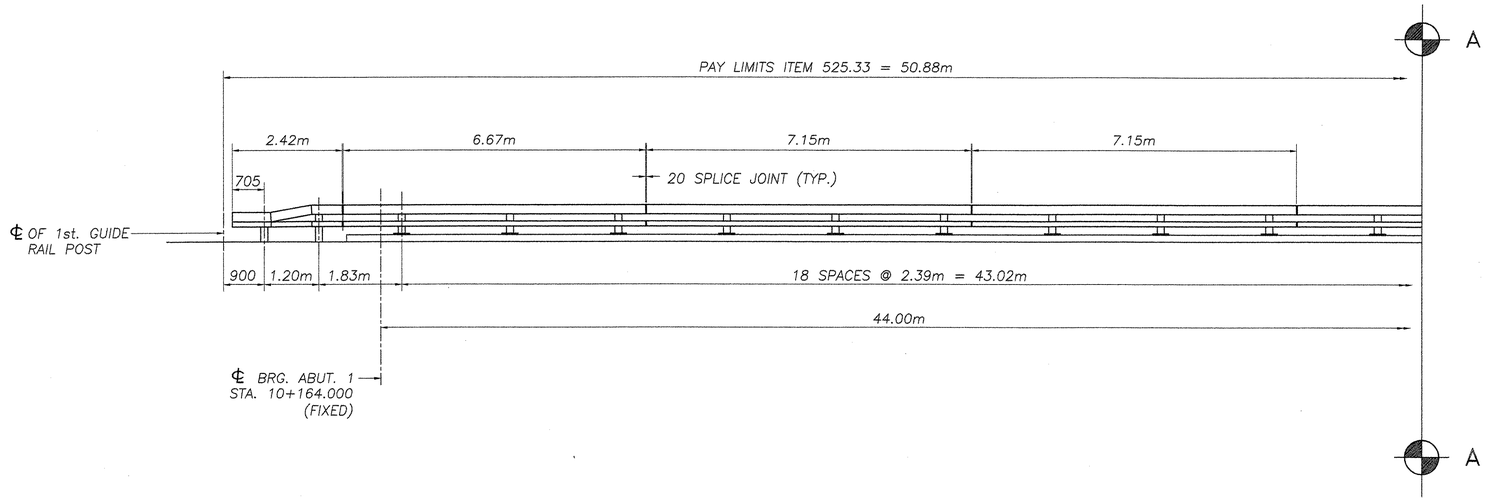
JOB: VT. ROUTE 118 OVER TROUT RIVER BERKSHIRE, VT.

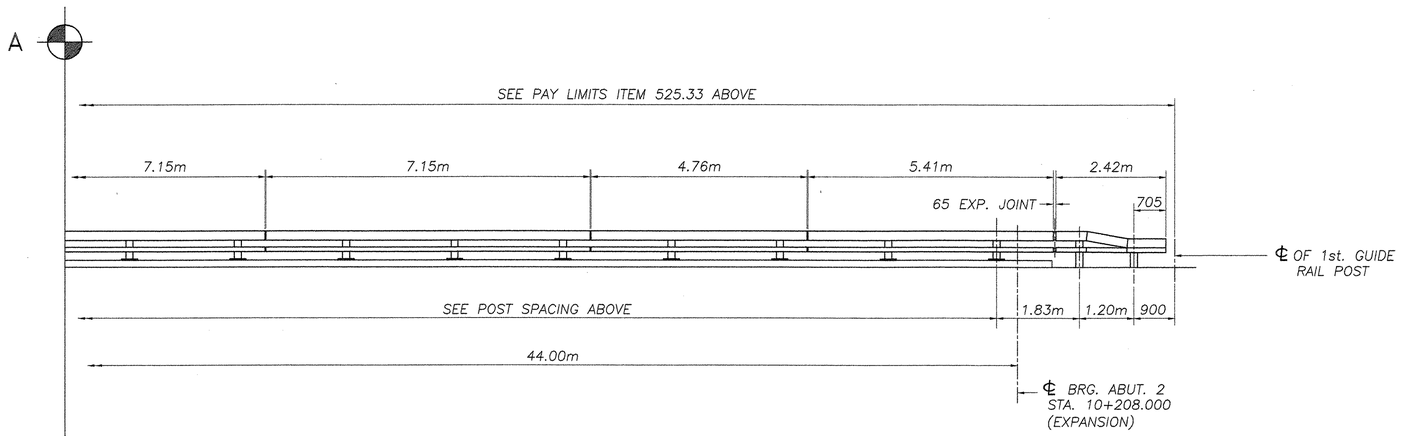
CUSTOMER: A. L. STONGE

| DRAWN BY | DATE |
|---|---|
| JDF | 3-05 |
| CHKD BY | |
| E.J. | |
| APPROV BY | |
| | |
| Q.A. | |
| JOB NO. | DRG. NO. |
| 222 | J1 |
| 164 | REV. |

CASCO BAY STEEL STRUCTURES, INC.
75 SPRING HILL ROAD SACO, MAINE 04072
PHONE (207) 282-7360 FAX. (207) 282-1179

1" = 1'-0




ELEVATION – NORTH BRIDGE RAIL
FACING (N) FROM ℄ OF ROADWAY
SOUTH ELEVATION SIMILAR

| BILL OF MATERIAL | | |
|---|---|---|
| Mk. | Qty. | Description |
| | 38 | W150x37.1 POST W/BASEPLATE (625mm) OAL |
| | 4 | W150x37.1 POST (2.134m) OAL |
| | 4 | W150x37.1 POST (1.956m) OAL |
| | 2 | TS 203 x 102 x 8 (4.76m) OAL |
| | 2 | TS 203 x 102 x 8 (5.41m) OAL |
| | 2 | TS 203 x 102 x 8 (6.67m) OAL |
| | 8 | TS 203 x 102 x 8 (7.15m) OAL |
| | 2 | TS 102 x 102 x 6 (4.76m) OAL |
| | 2 | TS 102 x 102 x 6 (5.41m) OAL |
| | 2 | TS 102 x 102 x 6 (6.67m) OAL |
| | 8 | TS 102 x 102 x 6 (7.15m) OAL |
| | 4 | TS 203 x 102 x 8 (2.42m) OAL CUT AND WELD |
| | 4 | TS 102 x 102 x 6 (2.42m) OAL CUT AND WELD |
| | 16 | TS 178 x 76 x 10 SPLICE TUBE 510 LG. |
| | 16 | TS 76 x 76 x 8 SPLICE TUBE 510 LG. |
| * | 38 | SPACER PLATE 330 x 238 x 10 |
| | 38 | 3mm BEARING PAD |
| | 4 | BACK UP PLATE 381x254x10 |
| | 4 | TERMINAL CONNECTOR |
| | 208 | M20 ROUND HEAD BOLT, 152 LONG W/NUT AND WASHER |
| | 128 | M16 SPLICE BOLT, 44 LONG W/PLAIN HARDENED WASHER |
| * | 152 | M24 ANCHOR STUD, 305 LG. W/(2) HEX NUTS/(1) JAMB NUT/(1) WASHER |
| | 16 | M20 x 13 SCH. 40 PIPE SPACER |

* – ITEMS MARKED "*" ARE NOT PROVIDED BY HIGHWAY SAFETY CORPORATION –SHOWN FOR REFERENCE ONLY

TOTAL ITEM 525.33 (BOTH SIDES OF BRIDGE) = 102m

| REVISIONS | | |
|---|---|---|
| No. | Remarks | Date |
| 0 | Initial submittal | 4/21/04 |
| | | |
| | | |

RECEIVED
CK'D BY_____ OK'D BY_____
MAY 04 2004
RESUBMIT_____ APPROVED EW
BY DATE 5/21/04

☒ Reviewed
☐ Rejected
☐ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

This review is only for general conformance with the design concept and the information given in the Construction Documents. Corrections or comments made on the shop drawings during this review do not relieve the contractor from compliance with the requirements of the plans and specifications. Review of a specific item shall not include review of an assembly of which the item is a component. The Contractor is responsible for: dimensions to be confirmed and correlated at the jobsite; information that pertains solely to the fabrication process or to the means, methods, techniques, sequences and procedures of construction; coordination of the Work with that of all other trades and performing all work in a safe and satisfactory manner.

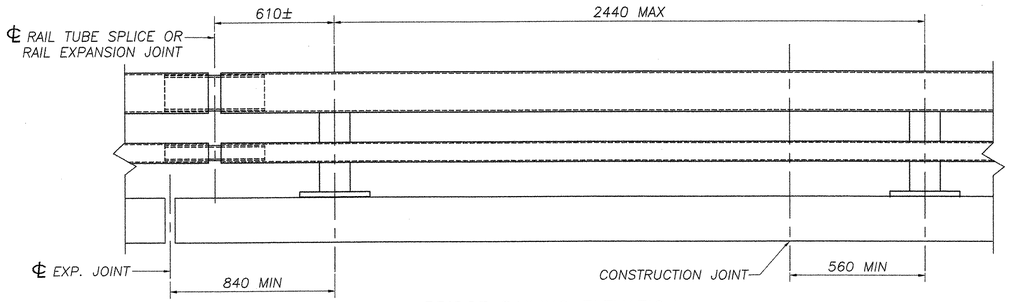
McFarland-Johnson, Inc.
Date 5-21-04
By Steven J. DeRue

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

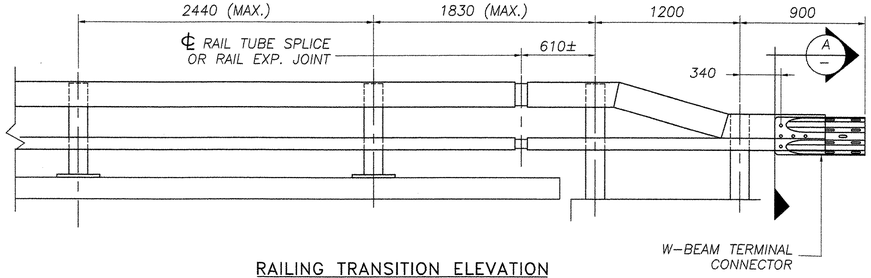
ITEM 525.33 – BRIDGE RAILING–NETC 2 RAIL
PROJECT No. BRF RS 0283(7)
TOWN OF BERKSHIRE Br. No. 26
VT.ROUTE 118 OVER TROUT RIVER

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE 165

DRAWN MHM
CHECKED
DATE 2-23-04
SCALE NONE
HSC REFERENCE NO. 1422
SIZE D REVISION 0
SHEET NO. 1 of 2



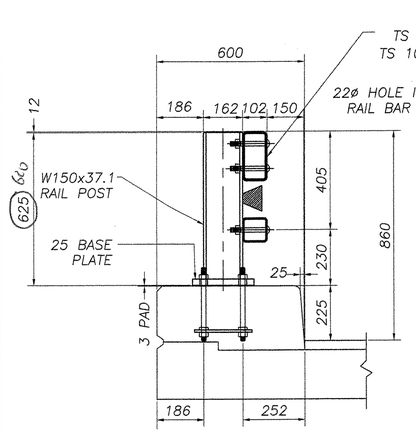

BRIDGE RAILING ELEVATION



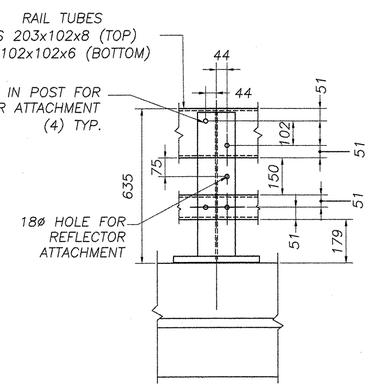

RAILING TRANSITION ELEVATION

NOTES

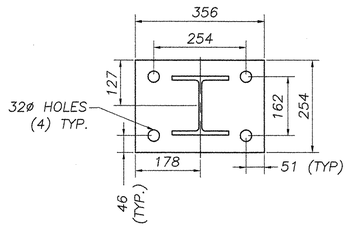
1. ALL RAILINGS AND MATERIALS SHALL CONFORM TO THE PROVISION OF SECTION 525, "RAILINGS OF THE STANDARD SPECIFICATION FOR CONSTRUCTION".
2. TUBING AND POSTS SHALL MEET THE REQUIREMENTS OF SECTION 732, "RAILING MATERIALS OR THE STANDARD SPECIFICATION OF CONSTRUCTION," EXCEPT THAT THE DROP-WEIGHT TEAR TEST IN SECTION 732 SHALL NOT APPLY TO THE STRUCTURAL TUBING SHOWN ON THIS SHEET.
3. ALL EXPOSED CUT OR SHEARED EDGES SHALL BE ROUNDED TO A 2mm RADIUS AND BE FREE OF BURRS.
4. RAIL POSTS SHALL BE SET NORMAL TO GRADE.
5. SECTIONS OF RAIL TUBE SHALL BTE ATTACHED TO A MINIMUM OF TWO (2) RAIL POSTS AND PREFERABLY TO AT LEAST FOUR (4) POSTS.
6. RAIL TUBE EXPANSION JOINT SHALL BE PROVIDED IN ANY RAIL BAY SPANNING A SUPERSTRUCTURE EXPANSION JOINT WIDTH SHALL BE "X" AT 7°C AND WILL BE ADJUSTED IN THE FIELD BY THE ENGINEER FOR OTHER TEMPERATURES.
7. ALL PARTS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH AASHTO M111, EXCEPT HARDWARE, WHICH SHALL MEET THE REQUIREMENTS OF AASHTO M232.
8. RAIL POST ANCHORING NUTS SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ONE-EIGHTH TURN.
9. RAIL TUBES SHALL BE ATTACHED USING M20 FULL DIAMETER BODY AASHTO M164 (TYPE 1) ROUND HEAD BOLT INSERTED THOUGH THE FACE OF THE TUBE. HOLES IN POSTS SHALL BE 2mm LARGER THAN THE BOLT SIZE.
10. HOLES IN RAILS FOR RAIL TUBE ATTACHMENT MAY BE FIELD-DRILLED. HOLES SHALL BE COATED WITH AN APPROVED ZINC-RICH PAINT PRIOR TO ERECTION.
11. IF THERE IS A CONFLICT BETWEEN THE DETAILS SHOWN ON THIS SHEET AND THE DESIGN, THE REQUIREMENTS OF THE DESIGN DRAWINGS SHALL BE FOLLOWED.
12. ANY BENDING OF RAIL SHALL BE BY SHOP PROCEDURE ONLY.
13. THE FABICATOR SHALL SUBMIT SHOP DRAWINGS, INCLUDING WELDING PROCEDURES TO THE STRUCTURES SECTION FOR APPROVAL IN ACCORDANCE WITH THE PROVISION OF 506.04, SHOP DRAWINGS. ALL WELDING SHALL CONFORM WITH SECTION 506.10.
14. RAIL POSTS AND BASE PLATES SHALL BE TESTED FOR IMPACT PROPERTIES IN ACCORDANCE WITH ASTM A370 CHARPY IMPACT TESTING USING TYPE A SPECIMENS.
15. TO FACILITATE FIELD FIT – UP OF THE TRANSITION RAILING, POSTS SHALL BE SET LOOSELY INTO FIBER FORM TUBES WHILE TRANSITION PARTS ARE BEING ASSEMBLED. POST HOLES SHALL BE BACKED FILLED WITH A CONCRETE MIX APPROVED BY THE ENGINEER. PAYMENT FOR COMPONENTS, INCLUDING BACKUP PLATE AND END TERMINAL CONNECTOR FOR GUARD RAIL, AUGERING, FIBER FORM TUBES AND CONCRETE , AND INSTALLATION SHALL BE CONSIDERED INCIDENTAL TO ITEM 525.33, "BRIDGE RAILING – NETC 2 RAILING".
16. ALL APPROACH RAIL SPLICES SHALL BE LAPPED ON THE DIRECTION OF TRAFFIC FLOW.



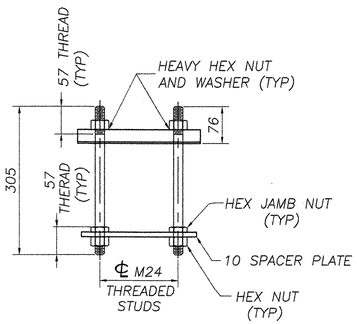

TYPICAL SECTION



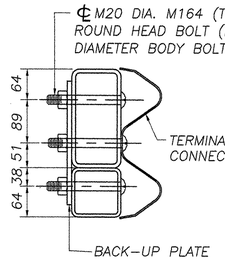

ELEVATION




POST AND BASE PLATE




RAIL POST ANCHORAGE
(BY OTHERS)




A — SECTION

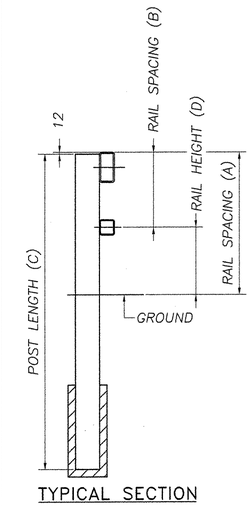
MATERIALS

| | |
|---|---|
| RAIL TUBES | ASTM A500, GRADE B OR ASTM A501 |
| RAIL POSTS AND BASE PLATES | ASTM A709/A709M, GRADE 345 |
| AALL OTHER SHAPRE AND PLATES | ASTM A709/A709M, GARDE 250 |
| ANCHOR STUDS | ASTM F568M CLASS 8.8 |
| ALL OTHER BOLTS (UNLESS NOTED) | AASHTO M164M, TYPE1 |

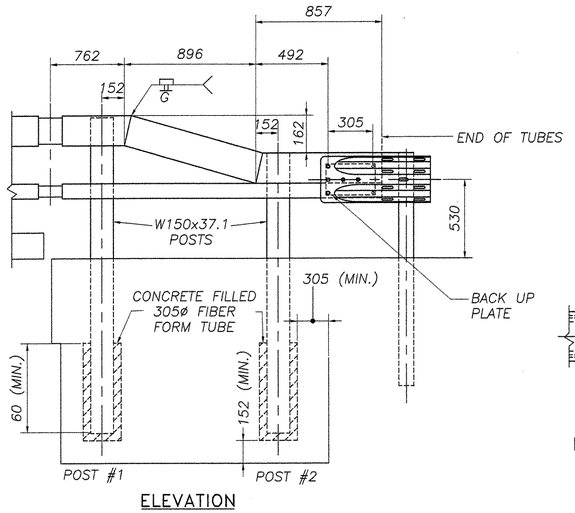
NUTS FOR AASHTO M164M (ASTM A325M) BOLTS AND ANCHOR STUDS SHALL COMPLY WITH AASTHO M291M (ASTM A563M).

WASHERS SHALL COMPLY WITH AASHTO M293M (ASTM F436M) SPECIFCATIONS.

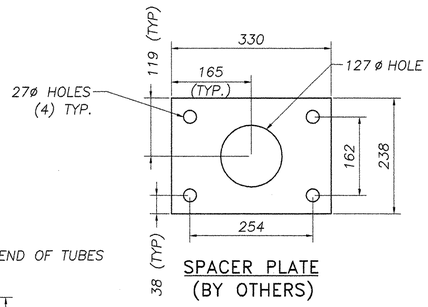
3mm PAD SHALL COMPLY WITH STANDARD SPECIFICATION SUBSECTION 731.01 OR 731.02.



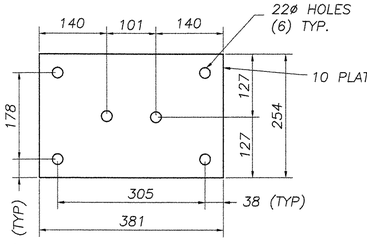

TYPICAL SECTION



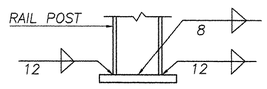

ELEVATION



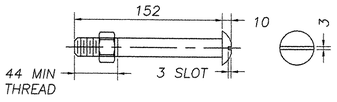

SPACER PLATE
(BY OTHERS)



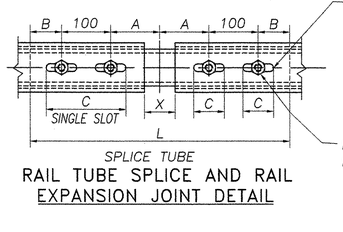

BACK-UP PLATE



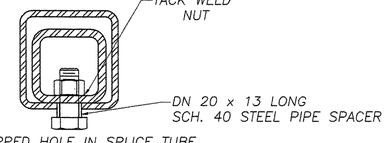

BASE WELD DETAIL




M20 DIA. M164M (TYPE 1)
ROUND HEAD BOLT
(WITH WASHER AND PREVAILING TORQUE TYPE LOCK NUT)
(SEE NOTE #9)
ONLY FULL DIAMETER BODY BOLTS WILL BE ALLOWED.




RAIL TUBE SPLICE AND RAIL
EXPANSION JOINT DETAIL




16ø TAPPED HOLE IN SPLICE TUBE
AND 29 x 'C' SLOT IN RAIL TUBE FOR
M16 BOLT AND PLAIN HARDENED WASHER

EXPANSION JOINT SECTION

FOR DETAILS NOT SHOWN,
SEE "RAIL TUBE SPLICE SECTION."

☐ Reviewed
☐ Rejected
☑ Furnish as Corrected
☐ Revise and Resubmit
☐ Submit Specified Item

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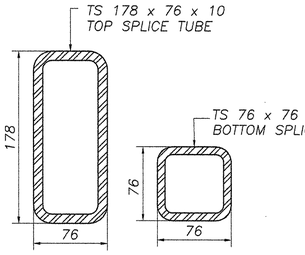
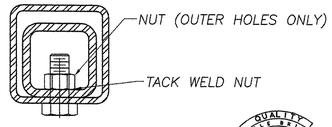
McFarland-Johnson, Inc.
Date 5-21-04
By Steven J. Dahlin




RAIL TUBE SPLICE SECTION




16ø TAPPED HOLE IN SPLICE TUBE &
19ø HOLE IN RAIL TUBE FOR M16
BOLT & PLAIN HARDENED WASHER

| | RAIL HEIGHT | RAIL SPACING | POST LENGTH | RAIL HEIGHT |
|---|---|---|---|---|
| POST NUMBER | (A) | (B) | (C) | (D) |
| 1 | 860 | 405 | 2134 | 455 |
| 2 | 702 | 254 | 1956 | 448 |

| SPLICE TABLE | | | | | |
|---|---|---|---|---|---|
| T | A | B | C | L | X |
| N/A | 100 | 50 | -- | 510 | 20 |
| EXPANSION JOINT TABLE | | | | | |
| <100 | 100 | 50 | 65 | 510 | 65 |

T = TOTAL MOVEMENT BETWEEN BRIDGE EXPANSION JOINTS. SEE NOTE 6

* = SINGLE SLOT

| REVISIONS | | |
|---|---|---|
| No. | Remarks | Date |
| 0 | Initial submittal | |
| | | |
| | | |

RECEIVED
CK'D BY_____ CK'D BY_____
MAY 0 4 2004
RESUBMIT_____ APPROVED
BY DATE 5/21/04

HIGHWAY SAFETY CORP.
GLASTONBURY, CT

ITEM 525.33 – BRIDGE RAILING–NETC 2 RAIL
PROJECT No. BRF RS 0283(7)
TOWN OF BERKSHIRE Br. No. 26
VT.ROUTE 118 OVER TROUT RIVER

GENERAL CONTRACTOR
SUB CONTRACTOR F.R. LAFAYETTE, INC. 166

DRAWN MHM
CHECKED
DATE 2-23-04
SCALE NONE
HSC REFERENCE NO. 1422
SIZE D REVISION 0
SHEET NO. 2 of 2